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**HONG KONG**



# **MEDICAL & SANITARY REPORT**

**FOR THE YEAR**

**1929**

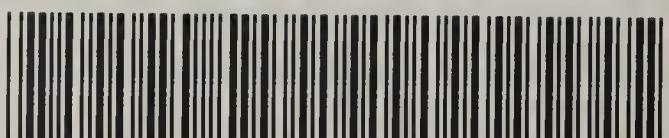
**BY**

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*Director of Medical and Sanitary Services*

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MAP OF  
HONG KONG  
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HONG KONG  
**MEDICAL & SANITARY  
REPORT  
FOR THE YEAR  
1929**

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31st DECEMBER, 1929.

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INTRODUCTION.

In order to give a clear impression of the Public Health conditions obtaining in Hong Kong it is necessary first to describe the situation of the Colony, its geographical features, its climate, the nature of the population, the housing conditions, and the bearing old Chinese traditions, beliefs, and customs, have on the question of co-operation with the authorities in the promotion and preservation of the Public Health. It is also desirable to indicate the various organisations which together make up the Public Health machinery.

The Territory under British jurisdiction includes the Colony Proper, namely, the Island of Hong Kong with the Peninsula of Kowloon and the New Territories. In this Report the term Colony means the Colony Proper. The area of the Island is 32 square miles—that of Kowloon is 2 2/3rd. square miles while the New Territories have approximately 300 square miles.

Situated between 22°-9' and 22°-37' North Latitude the area under discussion is just within the northern limits of the tropics. It is in fact practically on the same level as Calcutta. It may be said to form the lower extremity of the left bank of the estuary of the Canton River, at the head of which is the city of Canton and on an island in which stands the Portuguese Colony of Macao.

Topographically the Island of Hong Kong and the Peninsula of Kowloon may be described as a series of granite ridges separated by narrow valleys and having here and there flat areas facing the sea. The New Territory is of similar formation with some fairly wide valleys towards the north and west. The features are such that flats suitable for town sites are few in number and limited in extent. In the Island the only level of any size is that on which the city of Victoria stands and this does not cover more than one square mile. With regard to Kowloon, not more than one half is flat and convenient for street formation.

*The Climate.*—Situated just within the northern limits of the tropics and occupying an insular position immediately south of the great land mass of China, Hong Kong's climate is very materially influenced by the direction of the prevailing winds. The North East Monsoon blows from November until April and during this period the weather is dry and cool and invigorating. From May until October, the season of the South West Monsoon, the air is highly charged with moisture and the climate is hot, muggy and enervating. July, August and September are marked by atmospheric disturbances which now and then culminate in typhoons or cyclones accompanied by blinding sheets of rain.

The mean annual temperature is 72. During the summer months the average temperature is 87 and there is little variation throughout the 24 hours. Situated on the north side of the Island the city of Victoria gets all the heat and moisture of the South West Monsoon but not the breeze, which is cut off by the mountain behind the town. During the winter months the range of temperature is from 70° to 45° with an average of 66° necessitating for comfort the wearing of warm clothes and the provision of fires in the houses. Frost is practically unknown.

The average yearly rainfall is 85.72 inches. As might be expected most of the rain falls in the summer months.

*Population and its distribution.*—With regard to population there are no accurate statistical figures, the great movement to and from the Colony and the facility with which the border is crossed preventing accurate checking. Hong Kong being the principal entrepôt for South China and its harbour one of the busiest in the world, every day on an average 4,000 to 5,000 individuals pass to and from China by river steamer and by rail, and there are others who arrive and depart by junks or smaller vessels. During times of political unrest in China many thousands from the mainland sojourn in the Colony, some of whom return to their homes when conditions are more settled, others remaining attracted by the opportunities offered for employment. It is estimated that the civil population of the Colony is 1,047,260 of which 588,000 reside in the City of Victoria, 310,000 in the Town of Kowloon, over 100,000 on boats, in or about the harbour and the remainder in villages. The Chinese outnumber the rest by 50 to 1, the great majority being illiterate working people who reside in Hong Kong because of the facilities for employment but who return to their native towns and villages when too ill or too old for labour. Through this exodus the death rate of the Colony is considerably lower than it otherwise would be. The Chinese of the upper classes, many of whom have received a western education, are mostly engaged in commerce but there are among them a number of professional men including both lawyers and doctors.

Hong Kong depends for its prosperity on its trade with China and consequently 9/10ths of the population are concentrated in the cities of Victoria and Kowloon which may justly be described as one city divided into two by the harbour. Outside this city there is little of commercial importance and Hong Kong as a Colony might almost be termed the city and port of Greater Hong Kong.

*Housing Conditions.*—The site on which Victoria stands is a narrow strip of land 4 miles long by 1/5th to 2/5ths of a mile broad lying at the northern foot of the mountain and separating it from the sea. The total area of available space is about one square mile or 1/32nd of that of the whole island. Limited in front by the sea and behind by the steep slopes of

the mountain there remains hardly an inch of space which has not been occupied for one purpose or another. The residential portion of the town where the masses live does not exceed 400 acres. In this space 500,000 individuals find accommodation giving a density of 1250 per acre.

The conformation of the site with its rapid rise of land near the sea-shore led in the early days to the erection of houses on the narrow strip of land near the harbour and extending a little way up the lower slopes of the mountain the houses being separated by narrow lanes and alleyways. When the population was small and the houses only one and two stories in height, the situation was not unsatisfactory. As the population increased the houses were heightened to four and five stories without any corresponding widening of the spaces separating them.

Writing in 1882 when the population was 160,000, the area much the same as it is now and the density 400 per acre—Chadwick stated:—"Overcrowding of houses on the ground occurs to a serious extent and so does overcrowding of houses with humans". By 1901, when Chadwick again visited, the density had risen to 700 per acre. In his report he said that the housing conditions were rather worse than better than they were in 1882. As regards area per person they were the same but as regards ground area they were worse owing to the large number of lofty houses which had been built during the interval.

Year by year the population continued to increase, immigration being accelerated by unrest in China. Victoria was the centre of trade and therefore the centre of attraction. There was no room to build further accommodation and the newcomers had to squeeze into the already overcrowded premises. Rooms were divided into cubicles which to a certain extent provided privacy but which interfered both with lighting and ventilation.

Year by year the Sanitary Department and the Building Authority made efforts to deal with the situation and with a certain amount of success both as regards palliative and radical treatment. The task almost sisyphean in itself, was rendered more difficult by paucity of water and by opposition put forward both by property owners and the occupiers.

The position today is that 500,000 people are being accommodated in an area not exceeding 400 acres in extent where the streets are narrow and the houses four and five stories high. The density is 1250 to the acre. The people are packed together in the houses like steerage passengers on emigrant ships. In

some cases there are tiers of bunks placed against the walls as in the old fashioned ships, in others the rooms are divided into cubicles or cabins each measuring perhaps eight feet by eight feet and having partitions 6 feet in height. These cabins are not the temporary abodes of persons on a voyage but the more or less permanent homes of the people. There is little or no room for kitchens, and latrine accommodation is limited to pail closets on the roofs of the buildings.

It goes without saying that the maintenance of a satisfactory standard of sanitation under such conditions is a most difficult problem and one which cannot be solved without the willing co-operation of the people. One thing is certain so long as buildings are over-crowded and insanitary no amount of external sanitation will give immunity from disease.

With regard to Kowloon the case is different. This city which is comparatively new has been laid out in accordance with modern town planning principles. It has a density of 300 per acre and the water supply is adequate except in periods of great drought.

*Influence of traditional beliefs.*—The traditional beliefs of the uneducated Chinese as to the cause of diseases, the means of spread and the factors which affect its course are so at variance with modern teaching, that there is little chance of promoting voluntary co-operation between them and the authorities in the matter of the prevention and control of disease, until they can be brought to understand the true nature of the problems and are conscious of the usefulness of the measures advocated. The proximity of China and the constant intercourse makes it harder to overcome prejudices than is the case in countries further afield. The greatest hope lies in propaganda and education. However leaders of opinion in China and leaders of Chinese thought in Hong Kong are making vigorous efforts to promote public health and public welfare along lines which have proved successful in the Occident and the outlook is far more hopeful than was the case a few years ago when Chinese thought on matters of health was unduly swayed by old traditions and theories.

#### *Quarantine impractical between Hong Kong and the River Ports.*

So closely related are Hong Kong, Canton, Macao and the River Ports in the matter of trade, and such is the amount of traffic both human and goods which pass between them that, up-to-date, it has been found impossible to devise any system of quarantine which would effectually safeguard one city against introduction of disease from the other and, at the same time, preserve that freedom of commercial movements on which these cities depend for prosperity. It has been deemed best to treat them as forming one unit, as suburbs the one of the other, and

organisations to the end that some means, other than imposing restrictions against a whole port, may be found to prevent the spread of infection.

*The Organisation for the promotion and maintenance  
of the Public Health.*

The Colony has no "municipality" in the ordinary accepted sense of the term, the Governor himself being head of the city and head of the port. A Legislative Council takes the place of a Municipal Council and the Colonial Heads of Department perform the duties which in a municipality would be performed by Municipal Heads of Department.

The Director of Medical and Sanitary Services is the official adviser to Government on all Medical and Sanitary matters. Under his direction come the Hospital Organisation, the Medical Inspection of Schools, the Inspection of all Chinese Hospitals and Dispensaries, the Organisation for Port Health Work, for Bacteriological Work, for Malaria Investigation, for the Manufacture of Vaccines and Sera and for Analytical Work of a Chemical Nature.

The Sanitary Department which is distinct from and independent of the Medical Department has at its head an Officer of the Cadet Service. This department is responsible for the work usually performed by the Health Department of a Municipality plus scavenging and conservancy.

There is a Sanitary Board composed of Officials and non-Officials whose powers and responsibilities are laid down in the Public Health and Buildings Ordinance 1903 and which acts as an advisory body to the Head of the Sanitary Department. The President is the Head of the Sanitary Department and the Vice-President is the Director of Public Works. The Board has no direct control over the Sanitary Department.

The functions and control of the Sanitary Board and the Sanitary Department as determined by the Public Health and Buildings Ordinance are limited to the Colony and that portion of the New Territories known as New Kowloon.

The present machinery for the promotion of the Public Health is complex in that the organisation of energy both for the cure and the prevention of disease is divided among a number of units, governmental and non-governmental, which operate more or less independently of one another. The following table shows the bodies concerned in the various operations and the authorities in control.

CURE OF DISEASE.

<i>Institution.</i>	<i>Accommodation.</i>	<i>Controlling Authority.</i>
Govt. Civil Hospital* .....	246 beds	Medical Department.
Victoria Hospital .....	71 ,,	„ „
Kowloon Hospital .....	44 ,,	„ „
Peak Hospital .....	20 ,,	„ „
Infectious Diseases Hosp. ...	26 ,,	„ „
Mental Hospital .....	32 ,,	„ „
Gaol Hospital .....	30 ,,	„ „
Tung Wah Hospital .....	460 ,,	Tung Wah Committee.
Tung Wah Eastern Hosp. .	125 ,,	„ „ „ „
Tung Wah Infectious Disease Hospital .....	60 ,,	„ „ „ „
Kwong Wah Hospital .....	250 ,,	Kwong Wah Committee.
Tsan Yuk Maternity Hosp. 57	,,	Chinese Committee.
Chinese Eastern Maternity Hospital .....	22 ,,	„ „
Alice Memorial and Affiliated Hospitals .....	126 ,,	London Mission.
The Matilda Hospital .....	50 ,,	Special Committee.
The French Hospital .....	110 ,,	French Mission.
The Military Hospitals .....	—	Military Authorities.
The Naval Hospitals .....	—	Naval Authorities.
The Chinese Public Dis- pensaries (8 in number)..	—	Chinese Committee for each.

\*100 beds in this hospital have been placed under the control of the Clinical Professors of the Hong Kong University. The outpatients department is also under their charge.

PREVENTION OF DISEASE.

<i>Activity.</i>	<i>Controlling Authority.</i>
Town Planning .....	Public Works Department.
House Construction .....	„ „ „
Sanitation of Houses and surround- ings .....	Sanitary Department.
Collection and disposal of refuse ....	„ „
Collection and disposal of night soil.	„ „
Construction and maintenance of sewers and drains .....	Public Works Department.
Provision of drinking water and con- trol of same .....	„ „ „
Control and protection of food sup- plies .....	Sanitary Department.
Registration of Births and Deaths ...	„ „
Control of epidemic causing diseases.	„ „
Control of special diseases such as Malaria, Tuberculosis and Leprosy	Medical Dept. & Sanitary Department.

<i>Activity.</i>	<i>Controlling Authority.</i>
Measures for the welfare of Mothers and Infants .....	Tung Wah Hosp. Committee, Y.W.C.A., Tsan Yuk Hosp. Committee.
Measures for the welfare of school Children .....	Education Department & Medical Department.
Vaccination .....	Medical Department.
Port Health Work .....	„ „
Bacteriological Institute .....	„ „
Public Mortuaries .....	„ „

The St. John's Ambulance Brigade, which holds a strong position in the Colony and which does excellent work both in the training and the performance of first aid duties, renders valuable assistance to the authorities.

*Conveyance of the Sick.*—Motor Ambulances for the conveyance of the sick are housed at the fire stations and are controlled by the Police and Fire Department. Hand ambulances are operated by the Sanitary Department. The Tung Wah Hospital has a Motor Ambulance of its own and so has the Tung Wah Eastern Hospital.

During the present year the Director of Medical and Sanitary Services has been engaged in the formulation of a scheme for the re-organisation of the medical and sanitary services of the Colony and a comprehensive memorandum on the subject was submitted in June.

In December the Legislative Council passed an amendment to the Public Health and Buildings Ordinance making the D.M.S.S. a member of the Sanitary Board in place of the M.O.H. The objects and reasons for the Bill were stated as follows:—

“With a view to the re-organisation of the Medical and Sanitary Services of the Colony, it is considered desirable to associate the Director of Medical and Sanitary Services more closely with the working of the Sanitary Department, and in order that he may have the opportunity of acquiring first hand knowledge of the working of that department it has been decided to place him on the Sanitary Board instead of the Medical Officer of Health. When the Director of Medical and Sanitary Services has replaced the Medical Officer of Health as a member of the Sanitary Board the Government will await such recommendations from him in the public health administration as his experience of the working of the Sanitary Department may prompt him to make”.

## SECTION I.

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### ADMINISTRATION.

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#### 1.—STAFF.

The total authorised establishment of the Medical Department for 1929 was as follows:—

##### *Head Quarters Staff.*

Director of Medical and Sanitary Services ...	1
Deputy Director of Medical and Sanitary Services .....	1

##### *Health Division.*

Medical Officer of Health .....	1
Second Medical Officer of Health .....	1
Assistant Medical Officer of Health .....	1*
Chinese Medical Officer of Health .....	1
Assistant Medical Officer for Schools .....	1
School Nurses .....	2
Port Health Officer and Inspector of Emigrants .....	2
Chinese Assistant Port Health Officers .....	2
Vaccinators .....	12

##### *Medical Division.*

Senior Medical Officer .....	1*
Medical Officers .....	8
Assistant Visiting Medical Officer to Chinese Hospitals and Dispensaries .....	1
Chinese Medical Officers .....	8
Radiologist .....	1
Radiographer .....	1
Masseuse .....	1

##### *Bacteriological Institute and Research Division.*

Bacteriologist .....	1
Assistant Bacteriologist .....	1
Class II. Laboratory Assistant .....	1
Class VI. Laboratory Assistants .....	3
Malarial Research Officer .....	1*
Malarial Research Inspector .....	1*

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\*Posts vacant during the year.

*Division of Chemical Analysts.*

Government Analyst .....	1
Assistant Analysts .....	2
Assistant Analyst (Temporary) .....	1
Assistant Analysts Grade II. ....	2
Sampler .....	1

*Apothecaries and Dispensers.*

Apothecary .....	1
Assistant Apothecaries .....	2
Dispensers .....	5
Probationer Dispensers .....	4

*Nursing Staff.*

Principal Matron .....	1
Matrons .....	4
Home Sister .....	1
Tutor Sister .....	1*
Nursing Sister .....	49
Charge Nurses .....	4
Staff Nurses .....	4
Probationers .....	23
Charge Dressers .....	4
Staff Dresser .....	1
Dressers .....	12
Head Attendant, Mental Hospital .....	1
Assistant Attendant, Mental Hospital .....	1
Female Attendant, Mental Hospital .....	1
Wardmasters .....	3
Midwives .....	7

*Clerical Staff.*

Accountant .....	1
Clerk Class II. ....	1
Clerk Class III. ....	1
Clerks Class IV. ....	3
Clerks Class V. ....	2
Clerks Class VI. ....	8
Stenographers .....	2

*Other Officers.*

Steward .....	1
Linen Maid .....	1
Office Attendants, Wardboys, Amahs and Coolies .....	286

\*Posts vacant during the year.

*Principal Changes in Personnel.*

The following were the principal changes which took place during the year:—

Dr. A. R. Wellington took up his duties as Director of Medical and Sanitary Services on 4th February.

Dr. W. B. A. Moore, D.D.M.S.S. acted as Director of Medical and Sanitary Services in addition to his own duties till Dr. A. R. Wellington arrived on 4th February.

Mr. V. C. Branson acted as Analyst in addition to his duties as Assistant Analyst from 14th February to 5th November during the absence on leave of Mr. E. R. Dovey.

*Appointments:*—Major R. H. Lucas, O.B.E., R.A.M.C., was appointed as a temporary Medical Officer from 2nd February to 5th May.

Dr. R. D. Jenkins was appointed as Medical Officer from 16th June to 12th August, when he resigned.

Dr. K. H. Uttley was appointed Medical Officer on 19th September and arrived in the Colony on 24th October.

*Resignation:*—Dr. W. K. Dunscombe, Asst. Bacteriologist resigned on 30th June, 1929.

Dr. H. A. Fawcett, 2nd Medical Officer of Health resigned on 3rd November, 1929.

Dr. E. W. Kirk resigned on 31st December, 1929.

Dr. R. D. Jenkins resigned on 12th August, 1929.

*Invaliding:*—Dr. J. R. Craig was invalidated on 18th July, 1929.

*Chinese Medical Officers.*

*Appointments:*—Dr. K. C. Yeo who was appointed an Assistant Medical Officer of Health on 28/12/28 reported for duty on 28/2/29.

Dr. Cheng Kun Chen appointed 1st January, 1929.

Dr. Phoon Seck Wah appointed 8th July, 1929.

Dr. Phoon Seck Weng appointed 1st November, 1929.

Dr. D. Laing was appointed temporary Assistant Bacteriologist on July 3rd vice Dr. W. K. Dunscombe resigned.

*Resignation:*—Dr. Wong Man resigned on 30th June, 1929.

*Finance.*

The amount sanctioned in the Estimates for the Medical Department was \$970,350.00 and the amount expended was \$867,292.50.

Revenue received:—

For Medical Treatment .....	\$101,520.17
Medical Certificates .....	105.00
Bacteriological Examinations .....	8,307.44
Chemical Analyses .....	24,974.00
Bilis of Health .....	12,108.00
Medical Examination of Emigrants ...	152,509.90
<hr/>	
TOTAL .....	\$299,524.51
<hr/>	

Ratio of expenditure on medical and sanitary services to total revenue from all sources:—Because of the overlapping which occurs when a work serves both a utilitarian and a sanitary service it is impossible to assess exactly the amounts which have been spent for purely medical and sanitary purposes. Including all water works and drainage works as sanitary works the following shows the commitments as laid down in the Estimates for 1929:—

Expenditure by Medical Department ....	\$ 867,292.50
,,      ,, Sanitary Department ...	821,501.00
,,      ,, Public Works Dept. ....	1,071,200.00
,,      ,, Police Department .....	9,000.00
,,      ,, Subsidies to charities ...	103,000.00
,,      ,, Miscellaneous .....	11,000.00
<hr/>	
TOTAL .....	\$2,882,993.50
<hr/>	

$$\text{Ratio} = \frac{\text{Expenditure ..... } 2,882,993}{\text{Revenue ..... } 22,700,000} = 12.70\%$$

**SECTION II.**

**PUBLIC HEALTH.**

**GENERAL REMARKS.**

One of the most important events of the year from the public health point of view was the drought and the consequent shortage of water. The situation in the Island is such that there is sufficient reserve in the reservoirs to tide the population over a drought of any one year but insufficient when one dry year follows on another.

A continuation of the drought of 1928 resulted in a water shortage which became so acute in June as to constitute a crisis. In this month the Government created a water emergency committee on which all classes of the community were represented. The P.W.D., the Sanitary Department and the Medical Department co-operated in an endeavour to make available for the public all necessary supplies of potable water. The Public Works Department opened wells, supplied pumps and constructed temporary storage tanks; the Medical Department and the Sanitary Department arranged for inspection, for analysis and for chlorination. Water was brought by ships from Shanghai, Manila and the upper reaches of the estuary of the Canton River and discharged into tanks on the Praya, where it was chlorinated before delivery. The Tung Wah Charity co-operated with the authorities and constructed storage tanks. The rains in the latter part of July brought the crisis to a close. It is satisfactory to be able to report that there was no appreciable rise in the incidence of water-borne diseases.

With regard to the prevalence of general or non-notifiable disease the only incidence figures available are the returns of the Government Hospitals and the 'Western' clinics of the Chinese Hospitals details of which are to be found in the Appendices D & E of this report. These figures are, however, only a fraction of the whole and too much importance should not be given to deductions made from them. Though the educated Chinese appreciate the value of Western or scientific medicine the great bulk of the population still pin their faith to the time honoured decoctions prescribed by the numerous herbalists who practise in the Colony. It cannot be denied that many who partake of these remedies recover but there are no statistical figures to show either the prevalence of the various diseases treated or the proportion of recoveries. There may be and there probably are a number of valuable drugs known to the Chinese herbalists and which are not included in any of the Western pharmacopoeias but it is also probable that there are a considerable number which have a reputation they do not deserve. Until there is scientific evidence and statistical proof of the value of the drugs used, Chinese medicine cannot be ranked with Western medicine as being scientific.

Year by year the value of scientific medicine is becoming more and more appreciated by the Chinese both in China and in Hong Kong. Proof of this is the ever-increasing numbers who attend those hospitals where Western or scientific treatment is carried out. A number of those who seek relief at the Government Hospitals or the Western clinics of the Chinese Hospitals have made full trial of Chinese medicines and are well advanced in disease at the time of admission. These advanced cases swell the death rate and have a tendency to prejudice the minds of the ignorant against Western treatment.

Judging from the hospital returns the important diseases in decreasing order of prevalence were:—Pulmonary Tuberculosis, Malaria, Bronchitis, Beri-beri, Diarrhoea, Nephritis, Bronchopneumonia.

Complete and accurate figures regarding the incidence of diseases, other than those notifiable, being unavailable, recourse has to be made to death rates for information regarding variations in the state of the public health. As mentioned before, the majority of Chinese are sojourners who return to their native towns and villages when too ill to work, or when they feel the end to be approaching. Such being the case, the death records are considerably lower than they would be were all the deaths from diseases contracted or developed in the Colony recorded against them. In most instances the accuracy of diagnosis regarding cause of death is open to doubt for only a small proportion of cases were seen by qualified medical practitioners prior to decease. Bodies found 'dumped' or abandoned in the street, and they are not a few, are taken to the public mortuaries for diagnosis.

Even if the death figures were corrected, the absence of accurate figures for population would still make it difficult to obtain rates which would form useful bases for comparison.

In the New Territories there is no registration of deaths and figures for the calculation of rates do not exist.

The crude death rate of the Colony as calculated was 16.77 per mille population, an increase of 1.77 on the figures for the previous year, but less by 3 than the mean for the last 10 years. The principal diseases showing increased mortality rates were respiratory diseases and smallpox.

Of the total deaths 38 per cent were attributed to respiratory diseases, 12.3 per cent of the whole being pulmonary tuberculosis, 12.4 per cent broncho-pneumonia, 7.9 per cent bronchitis and 5.4 per cent pneumonia. The overcrowded, ill-ventilated and badly-lighted houses combined with the expectorating habits of the Chinese furnish sufficient explanation for the prevalence of respiratory troubles.

Bowel diseases accounted for 10.4 per cent of the total deaths. Of these 7.1 per cent were diagnosed as cases of infantile diarrhoea, 2.2 per cent as diarrhoea and 1 per cent as dysentery. In 1928 the percentage of bowel diseases deaths to the whole was 10.3 per cent but then infantile diarrhoea was only 2.8 per cent, diarrhoea 5.5 per cent and dysentery 2 per cent. I am unable to offer any explanation for the rise and fall in the figures for the various categories.

The following table gives the principal diseases causing deaths and their death rates:—

*Non-notifiable diseases.*      *Death rates per mille population.*

	1929	1928
Pulmonary tuberculosis .....	2.06	1.76
Broncho-pneumonia .....	2.07	1.68
Bronchitis .....	1.32	1.52
Pneumonia .....	0.90	0.91
Diarrhoea (infantile) .....	1.19	0.40
Diarrhoea .....	0.37	0.82
Dysentery .....	0.18	0.30
Beri beri .....	0.54	0.68
Malaria .....	0.40	0.30
Heart disease and Heart failure...	0.42	0.29

*Notifiable diseases.*

Small-pox .....	0.81	0.31
Enteric .....	0.05	0.07
Diphtheria .....	0.06	0.06
Cerebro-spinal fever .....	0.01	0.01
Plague .....	0.001	0.002

COMMUNICABLE DISEASES.

(A) *Mosquito-borne diseases.*—The mosquito borne diseases malaria, dengue and filariasis not being notifiable incidence figures are not available and the only information obtainable is that put up by certain hospitals and private practitioners.

*Malaria.*—This disease which in the early days of the Colony was the great cause of death and from which Hong Kong derived its reputation of unhealthiness has now practically disappeared from the populous centres of Victoria and Kowloon, as the result of the destruction of the breeding places of the carriers through efficient drainage. There is still a considerable amount of malaria in the outskirts of the two towns and in the rural areas both of the Island and the mainland. From the general topography of the country, from its geology, from what has already been learned of the mosquito fauna, and from comparison with Malaya, Assam, Sumatra and the Philippines where similar mosquitoes exist one is inclined to suspect that the breeding grounds of the carriers are the small collections of clear water lying in the untrained nullahs and at the hill foots and that the large areas of wet cultivation are not so dangerous as has been supposed. However, much more detailed work will have to be done before the whole truth is brought to light.

Negotiations have been proceeding between the Governments of Hong Kong and the Federated Malay States for the transfer to this Colony of an experienced Malariaiologist and there is every reason to hope that the transfer will be effected early in the coming year.

Judging from the hospital admissions this disease was slightly more prevalent than last year. The cases admitted to the Government Hospitals for the last five years were as follows:—

1925 .....	1,142
1926 .....	970
1927 .....	670
1928 .....	485
1929 .....	653

Of the 653 cases admitted during the year 520 were benign tertian, 94 sub-tertian, 5 quartan. There were besides 32 cases of cachexia and 2 cases of blackwater.

The incidence among the police in the New Territories for the same period was:—

1925 .....	1,205
1926 .....	877
1927 .....	428
1928 .....	278
1929 .....	265

Many of the Police Stations are screened and every man is provided with a mosquito curtain. Prophylactic Quinine is issued and the living rooms are regularly sprayed with an insecticide to repel mosquitoes and to kill those that may be present.

The total number of deaths attributed to Malaria was 420 or 2.3 per cent of the whole: the death rate per mille population was 0.40 as compared with 0.30 for 1928. The lowness of the rate is of course due to the fact that the majority of the population being outside the zone of the Malaria carrying anophelines are not subject to risks of attack. A number of localities outside the town are reputed to be malarious but at present there are no figures to allow an estimate to be made of amount.

*Dengue*.—Dengue is endemic in Hong Kong and from time to time reaches epidemic form. There was nothing in the way of an epidemic in 1929.

*Filariasis.*—The disease exists but there are no figures on which to estimate sickness and death rates.

*Tuberculosis.*—If one assumes the probability of some of the cases of broncho-pneumonia being tubercular the death figures show that this disease still continues to rank as the chief cause of mortality. Pulmonary tuberculosis is a chronic and debilitating disease and one which unfits the individual from the active exercise of his employment months or even years previous to his death. It is, therefore, most probable that the death figures form only a partial index of the prevalence of the disease in the Colony as many, who would have died here had they remained, returned to their native villages in China there to end their lives among their friends and relatives. If the death figures were multiplied by two the result would be not far from the truth.

There is no sanitorium and no special institute for the care of persons suffering from chronic diseases and the hospital accommodation all told is only one bed per 1,200 population. It is obvious, therefore, that the majority of sufferers from this infectious disease must struggle against the ravages of their affliction in the crowded tenement houses under conditions which leave little hope for their ultimate recovery. It is the custom with the Chinese of today, as it was with the English of yesterday, to expectorate anywhere and everywhere and thus each case of tuberculosis is an active focus for the spread of the disease.

There is little hope for improvement under present conditions.

*Leprosy.*—The law dealing with Leprosy is the Leprosy Ordinance of 1910 which makes leprosy a notifiable disease and gives power to the Governor-in-Council ‘to appoint such places as he shall think fit to be leper asylums for the segregation and treatment of lepers’ and power to the Governor to order that a leper be segregated in a leper asylum, or if there be provision for effective isolation and medical treatment in the patient’s own home, the conditions under which he may be allowed to remain there.

Since November 1910, when the Au Tau Settlement in the New Territory was destroyed by fire, no place has been ‘appointed a leper asylum’, and there is now no settlement in either the Colony or New Territories.

Though leprosy is a notifiable disease very few cases are notified. Considering the great interchange between Hong Kong and the neighbouring province of Kwangtung it is not unnatural to suppose that the incidence rate will be much the same in the two places: In Kwangtung the incidence rate has been estimated as one case per thousand population or the same as

that prevailing in India and Malaya. Assuming the population of the Colony and New Territory to be 1,000,000 the number of lepers is 1,000. It may be that this number is too high but allowing that the number is only half that of Kwangtung the figure is 500 or if one quarter then 250.

Lepers who are not British subjects are prohibited from entering the Colony and any such who find entrance may be deported. Lepers of Chinese nationality are sent to Canton. Lepers who are British subjects may obtain treatment at the Government Hospitals.

During the year the Director of Medical and Sanitary Services visited the Leper Settlements of Shek Lung and Tai Kam and conferred with the Authorities. The former is controlled by the Roman Catholic Mission, the latter by a Committee in which the Rev. John Lake is the moving spirit. Both settlements are on islands in Chinese Territory—Shek Lung being distant 70 miles and Tai Kam 90 miles.

#### INFECTIOUS DISEASES.

The infectious diseases of the Colony may for convenience be classified into those which are notifiable under the Public Health and Buildings Ordinance and those which are not.

The most important of the non-notifiable infectious diseases are Pulmonary Tuberculosis and Leprosy.

The notifiable diseases are Plague, Cholera, Yellow Fever, Smallpox, Typhus Fever, Cerebro-spinal Fever, Enteric Fever, Para-typhoid Fever, Relapsing Fever, Scarlet Fever, Diphtheria, Puerperal Fever and Rabies (human and animal).

Responsibility for reporting a case of notifiable disease lies with the legally qualified medical practitioner attending the case, or in the absence of such on the occupier or keeper of the premises, or on the nearest male relative living on the premises or in default of such relative on any person in charge of or in attendance on the sick person. Reports are to be made to the Medical Officer of Health or to the Officer in charge of the nearest Police Station.

In actual fact practically the only reports received by the M.O.H. are (a) those from qualified medical practitioners (b) from the medical officers of hospitals and (c) from the medical officers in charge of the Public Mortuaries where bodies dumped in the street by friends or relatives of the deceased have been taken for inspection and disposal.

The Health Authorities, when they do discover a case of infectious disease, have no power to remove it to hospital unless the patient or his guardian consents or unless a magistrate makes an order for removal.

The numbers of cases of infectious disease notified during the year were:—

Bubonic Plague .....	2
Cholera .....	0
Smallpox .....	977
Diphtheria .....	140
Scarlet Fever .....	1
Enteric .....	207
Para-typhoid .....	3
Relapsing Fever .....	0
Cerebro-Spinal Fever .....	25
Typhus .....	1
Yellow Fever .....	0
Puerperal Fever .....	14
Rabies (human) .....	1
Rabies (animal) .....	3

*Smallpox.*—Every year during the winter months this disease manifests itself in outbreaks which are sometimes sporadic sometimes epidemic. Whatever be the prevalence there is always a tendency for the morbidity rate to decline or disappear with the advent of summer. Considering its high infectivity, its terrible disfigurement and the frequency of fatalities the indifference shown by the Chinese to the presence of cases in their midst is amazing. All Chinese know smallpox and the presence of a case in a crowded tenement house cannot escape the notice of the occupiers but for some obscure psychological reason they refrain from reporting its presence to the authorities, and more often than not the first notification received by the Medical Officer of Health is that from the Mortuary where the body, dumped in the streets at night, has been taken for diagnosis. The sole information received by the Health Authorities concerning the case is the sex of the deceased, the apparent age and the diagnosis. The name, the address, the number of contacts and the period during which the case has been a focus of infection are unknown.

After the 1916-1917 epidemic in an endeavour to stop the practice of dumping and to encourage notification of cases, the Sanitary Board passed a resolution—"that patients suffering from smallpox be allowed to be treated in their own houses provided that—

- (a) all cases in the district be notified to the Medical Officer of Health;
- (b) all inmates of the houses be vaccinated;
- (c) a notice be posted on the door of the house where the patient is being treated.'

The results did not come up to expectations for the populace ignored the concession and continued their practice of concealing cases and dumping corpses. The practice of allowing cases to remain in the crowded tenement houses has been in vogue for 11 years and at least 75 per cent still remain concealed and unnotified. The following table shows some details regarding cases and notification:—

TABLE SHOWING DATA CONCERNING SMALL-POX CASES.

Year.	Total No. of deaths registered.	Percentage of cases if the mortality be 50% early.	Percentage of cases reported during life including moribund cases	Percentage of cases brought to the notice of the Authorities after death had occurred.	Percentage of cases which were never reported either before or after death.	Percentage of cases escaping notice of the Authorities before death.
1910.....	15	30	58	41	1	42
1911.....	198	396	23	45	32	77
1912.....	565	1,130	20	42	38	80
1913.....	84	168	27	39	34	73
1914.....	91	182	13	46	41	87
1915.....	29	58	19	39	42	81
1916.....	542.	1,084	18	46	36	82
1917.....	549	1,098	16	38	46	84
1918.....	26	52	19	42	39	81
1919.....	15	30	43	46	11	57
1920.....	21	42	38	38	24	62
1921.....	162	324	19	39	42	81
1922.....	189	378	19	36	45	81
1923.....	1,141	2,282	17	41	42	83
1924.....	795	1,590	13	43	44	87
1925.....	41	82	39	19	19	61
1926.....	26	52	61	32	7	39
1927.....	126	252	18	40	42	82
1928.....	517	1,034	13	46	41	87
1929.....	854	1,708	4	42	44	86

The total number of cases brought to the notice of the authorities during the year was 977 of which 854 or 87.4 per cent died. 136 cases were admitted to the Tung Wah Hospital for 'Chinese' treatment, which with 10 remaining from the previous year made a total of 196. Of these 85 died making a death rate under Chinese treatment of 43.3 per cent. Altogether 35 cases were treated in the Government Infectious Diseases Hospital of which 4 died making a death rate of 11.4 per cent under Western or scientific treatment. 82 per cent of all the deaths were in children under 5 years of age.

In this epidemic 716 cases were notified to the Medical Officer of Health for the first time when the Medical Officer in charge of the Mortuary reported the presence of a corpse dead of the disease. The great majority of these were dumped corpses.

The average case mortality rate for all countries in the unvaccinated of all ages is 25 per cent to 35 per cent, and for those of children under 5 years of age not more than 50 per cent. In Hong Kong the percentage of deaths to cases notified was 87.4 which shows that a number of cases escaped the notice of the authorities altogether. There were 854 deaths and even if it were assumed that all who died were unvaccinated and under 5 years of age the number of cases was not 977 but  $854 \times 2$  or 1,708, which means that 731 or 42 per cent of the whole were successfully concealed.

Isolation of the sick, disinfection of premises and surveillance of contacts, such as carried out in most countries, being impracticable under the accepted policy, the only means of combating an epidemic was the pushing of vaccination.

Anticipating an epidemic, arrangements were early made with the Assistant Commissioner of St. John's Ambulance Brigade to conduct a vaccination campaign similar to that of the previous year. As before, each member of the Brigade was instructed in vaccination by the Divisional Surgeons and when pronounced efficient his name was gazetted as a public vaccinator for the period of the emergency. Booths were opened in the streets and markets and active propaganda advocating vaccination and revaccination was carried out and altogether excellent work was done. At the same time special efforts were made by the Government Vaccinators and at the hospitals and dispensaries.

Altogether 323,709 persons were vaccinated (as compared with 258,212 in 1928) of which 214,821 were done by the Brigade, 27,650 by the Chinese Hospitals and Dispensaries and 81,238 by the Government Vaccinators.

In previous campaigns great difficulty had always been experienced in obtaining permission to vaccinate young children, and this year a special effort was made in this direction with

the result that 5,794 children under 5 years of age were done by the Brigade alone. The fact that 82 per cent of the deaths were those of children under 5 years shows the unvaccinated state of the child population.

From the above it will be seen that the St. John's Ambulance Brigade and the Chinese Hospitals and Dispensaries rendered most valuable assistance in the attempt to control the smallpox epidemic by vaccination alone. During 1928 and 1929, 581,921 vaccinations were performed, a total equalling half the population. The constant movement of population into and out of the Colony (some 10,000 per diem) however renders it impossible to maintain a community so immune as to prevent disease spreading when cases are allowed to run their courses in tenement houses and there is no efficient control over the numerous free agents which pass into and out of the premises daily.

After a trial of ten years it would appear to be patent that voluntary vaccination by itself will never efficiently control smallpox, and so long as the present policy prevails so long will Hong Kong remain an endemic centre and year by year be declared infected by other countries.

*Plague.*—Two cases of bubonic plague occurred both being fatal. The first case was reported on the 18th of August and the other on the 2nd of September. Four rats were found plague infected. They came from property adjoining the water front.

Plague has practically disappeared from Hong Kong and the same may be said of most towns in South China. The disappearance in Hong Kong may be and probably is due in some degree to the sanitary measures which have been and are being taken but this cannot be the case in many of the Chinese towns where the conditions are as they have always been. The fact is that the cause of the rise and fall in plague figures has not yet been satisfactorily explained. We know that plague is a disease of rats communicated to man through the medium of the rat flea but we know little of the reason for the rise and fall in the incidence of the disease among rats or what natural causes have an influence on the virulence of the plague bacillus. In spite of the continuous campaign against them there still is and probably always will be a sufficiency of rodents in the Colony to light up and maintain an epidemic.

The cases of Plague recorded in the Colony since the discovery of this disease in 1894 are given in the following table:—

Year	Cases	Year	Cases
1894 .....	5,000	1901 .....	1,651
1895 .....	44	1902 .....	572
1896 .....	1,204	1903 .....	1,415
1897 .....	21	1904 .....	510
1898 .....	1,320	1905 .....	272
1899 .....	1,486	1906 .....	893
1900 .....	1,087	1907 .....	240

Year	Cases	Year	Cases
1908 .....	1,073	1919 .....	464
1909 .....	135	1920 .....	138
1910 .....	25	1921 .....	150
1911 .....	260	1922 .....	1,181
1912 .....	1,857	1923 .....	148
1913 .....	408	1924 .....	0
1914 .....	2,146	1925 .....	0
1915 .....	144	1926 .....	0
1916 .....	39	1927 .....	0
1917 .....	38	1928 .....	4
1918 .....	266	1929 .....	2

*Enteric.*—The number of cases reported was 207 as compared with 240 for the previous year. All the cases were sporadic and as is usual in such the source of infection could not be traced. There is no evidence that any case contracted the disease through the public water supply.

*Helminthic Disease.*—The hospital returns show 18 cases of ankylostomiasis, 4 cases of cestodes and 23 cases of ascaris infection. These figures are of no value in gauging the prevalence of helminthic diseases for they only represent the cases which were treated for worms alone. It is estimated that 75 per cent of adult Chinese harbour ascaris. It is probable that a considerable number have trematodes.

#### VITAL STATISTICS.

The registration of births and deaths is compulsory in the Colony; there is no registration in the New Territories. Births are registered at the Central Office in Victoria, at the Chinese Public Dispensaries and at the Police Stations at Aberdeen and Stanley. Deaths are registered at the Central Office, at the Kowloon Disinfecting Station and at a number of Police Stations.

Death registration being a necessary preliminary to a permit to bury it may be taken for granted that practically all deaths are registered. Bodies found ‘dumped’ or abandoned in the streets, and they are not a few, are taken to the Public Mortuaries where they are examined by the Medical Officer in charge who fills out the necessary certificates and forwards them to the Registrar. All certificates of death are scrutinised by the Medical Officer or Health.

Birth registration is not universal and a considerable number of births, especially those of females, are never reported.

*Population.*—The estimated civilian population for the whole of the territories under British Jurisdiction was 1,143,510; that for the Colony was 1,047,260 and that for the New Territories was 96,250. The distribution was as follows:—

Non-Chinese (mostly resident in Hong Kong and Kowloon) .....	18,150
Chinese in the City of Victoria .....	577,500
„ „ Villages of Hong Kong .....	46,080
„ „ Kowloon and New Kowloon .....	296,480
„ „ Junks and Sampans .....	109,050
<hr/>	
<i>Total civilian population</i> .....	1,047,260
<hr/> <hr/>	

During the year 1,880,459 persons entered and 1,805,563 left the Colony by river steamer and by railroad, making a balance of immigrants over emigrants by these routes of 74,896.

	<i>Arrived.</i>	<i>Departed.</i>
River steamer .....	1,229,995	1,300,676
Railway .....	650,464	504,887
<hr/>		
<i>Total</i> .....	1,880,459	1,805,563
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The above does not represent the total movement between Hong Kong and the neighbouring provinces for there are many who arrive and depart by junk or sampan.

#### BIRTHS.

The births registered as having occurred in the Colony were:—

Chinese .....	9,872
Non-Chinese .....	351
<i>Total</i> .....	10,223

DEATHS.

The deaths registered among the civilian population were 17,565 giving a crude death rate of 16.77 as compared with 15.06 for the previous year:—

Year.	Deaths.	Death rate per mille population.
1928	Chinese ..... 14,553	15.14
„	Non-Chinese ... 182	11.20
1929	Chinese ..... 17,346	16.95
„	Non-Chinese ... 219	12.06

The following table gives the deaths from the principal diseases causing deaths:—

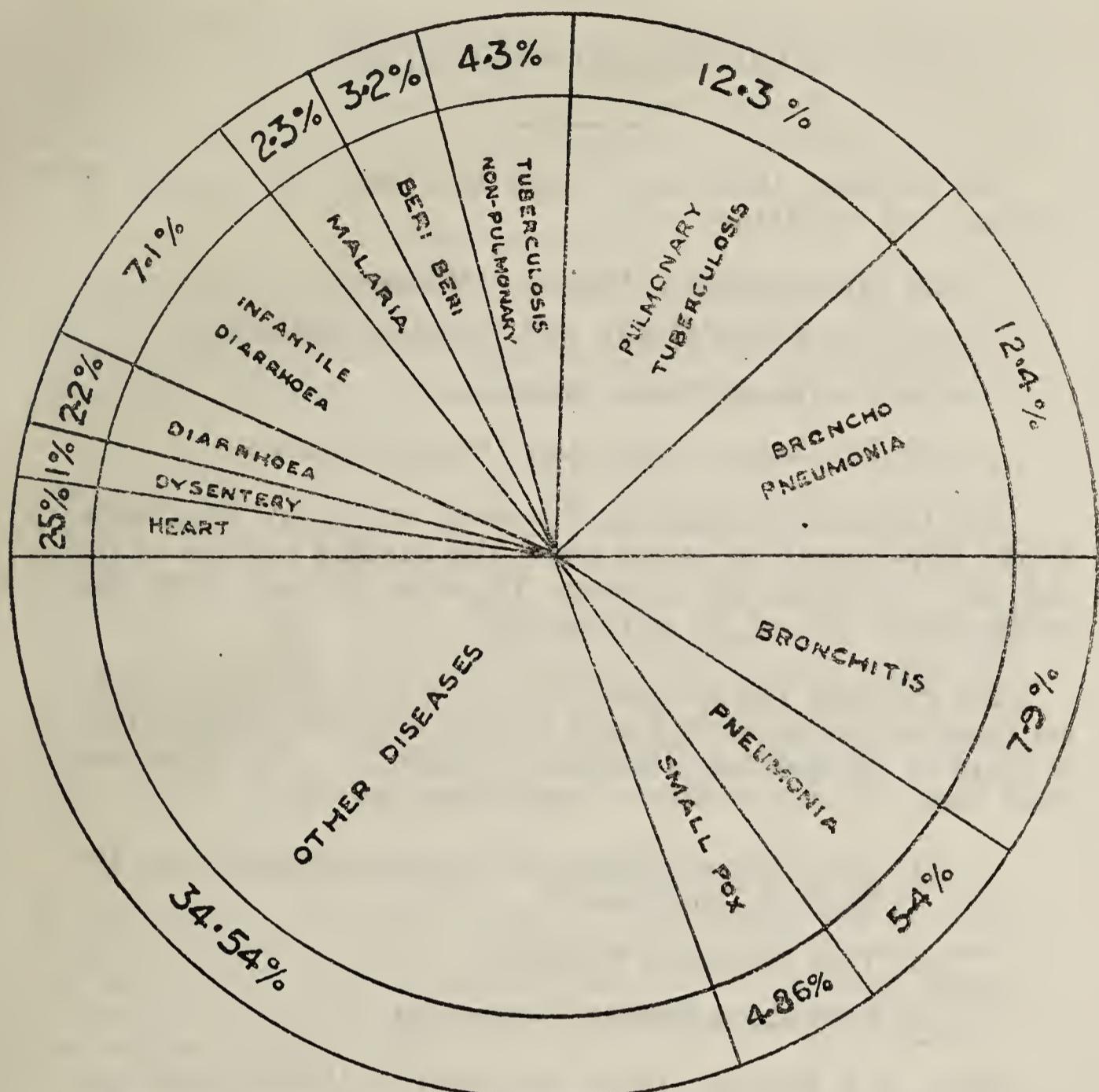
Non-notifiable diseases.	No. of deaths.	Per centage of deaths of total deaths.	Death rate per mille population.	
			1929.	1928.
Broncho-pneumonia .....	2,175	12.4	2.07	1.68
Pulmonary tuberculosis .....	2,158	12.3	2.06	1.76
Bronchitis .....	1,389	7.9	1.32	1.52
Pneumonia .....	951	5.4	0.90	0.91
Diarrhoea (infantile) .....	1,245	7.1	1.19	0.40
Diarrhoea .....	393	2.2	0.37	0.82
Dysentery .....	189	1.0	0.18	0.30
Beri-beri .....	566	3.2	0.54	0.68
Malaria .....	420	2.3	0.40	0.30
Heart disease and heart failure.	440	2.5	0.42	0.29

*Notifiable Diseases.*

Smallpox .....	854	4.86	0.81	0.31
Enteric .....	61	0.34	0.05	0.07
Diphtheria .....	64	0.36	0.06	0.06
Cerebro-spinal fever .....	20	0.11	0.01	0.01
Plague .....	2	0.011	0.001	0.002

*Infantile Mortality.*—The number of deaths of infants under one year were Chinese 6,777, non-Chinese 29. If the figure for births notified represented the total births in the Colony the infantile mortality figure would be 662.9. This figure is certainly too great but there can be no doubt that the true rate is a high one.

Death Clock showing percentages of total deaths caused by different diseases:—



#### *General European Population.*

The number of European civilians resident in the Colony is estimated at 9,000. This number includes Americans, Canadians, Australians and others of pure European descent.

The majority of Europeans are treated by private practitioners during illness and figures are not available for calculating incidence rates.

The number of deaths recorded was 122 giving a death rate of 13.55 per mille.

#### *European Officials.*

Number of European Officials (excluding temporary school mistresses) .....	886
Average number on leave .....	141
Average number resident in the Colony .....	745

Number invalidated during 1929:—

(a) when on leave at home .....	3
(b) in the Colony .....	7
—	10

Number died during 1929:—

(a) when on leave at home .....	1
(b) in the Colony .....	3
—	4

## SECTION III.

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### HYGIENE AND SANITATION.

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The principal Ordinances which have effect in matters of Hygiene and Sanitation are:—

- (a) The Summary Offences Ordinance.
- (b) The Public Health and Buildings Ordinance.
- (c) The Water Works Ordinance.
- (d) The Sale of Food and Drugs Ordinance.

The Police are responsible for action under (a), the Public Works Department for action under the building sections of (b) and for (c), while the Sanitary Department deals with the public health side of (b) and with (d).

The Sanitary Department, which is distinct from the Medical Department, has at its head a Senior Cadet Officer whose title is Head of the Sanitary Department (H.S.D.). The European Staff under his administrative supervision includes:—

- (1) Two Medical Officers of Health (seconded from the Medical Department).
- (2) Two Veterinary Surgeons.
- (3) Fifty-three Sanitary Inspectors.

There is a Sanitary Board composed of Officials and non-Officials, whose powers and responsibilities are laid down in the Public Health and Buildings Ordinance, which acts as an adviser to the H.S.D. and of which the H.S.D. is the Chairman. This body has no direct control over the Sanitary Staff.

The functions and control of the Sanitary Board and Sanitary Department as determined by the Public Health and Buildings Ordinance are limited to:—

- (a) the Island of Hong Kong, (b) the Peninsula of Kowloon, and (c) that portion of the New Territories which is adjacent to Kowloon and which is known as New Kowloon.

The Director of Medical and Sanitary Services, who is adviser to Government on all medical and sanitary matters, confers with the H.S.D. but has no status under the Public Health and Buildings Ordinance and no authority over any of the staff of the Sanitary Department.

The following general review of work done and progress made in matters of sanitation is based on facts supplied by the M.O.H. The Annual Report of the Sanitary Department is issued independently by the Head of the Sanitary Department.

#### ADMINISTRATION.

For purposes of sanitary administration the Island and the Peninsula have been divided into local sanitary areas, each with a sanitary office, and these in turn have been sub-divided into Health Districts each in charge of a Sanitary Inspector.

The built over portions of Hong Kong constitute only about 1/30th of the total area. On the North side is the City of Victoria which occupies the flats and lower slopes facing the harbour. Behind and above the City is the Residential area of the Hill District extending up to and including the crest called "the Peak". The great mass of the population, (500,000), which reside in the City, are crowded into an area which does not exceed 400 acres in extent. On the South side and near the sea level are the villages of Aberdeen, Aplichau, Stanley and Taitam. The remainder of the Island consists of steep slopes with few or no habitations.

The Peninsula of Kowloon may be described topographically as consisting of a central group of hills surrounded on three sides by flats which intervene between them and the sea coast. The bulk of the population (250,000) live in tenement houses on the flats. New Kowloon is an extension northwards of the flats on the western side.

The City of Victoria including the Peak is divided into four sanitary areas and sixteen health districts. The villages on the south side of the island are in charge of one inspector. Kowloon Peninsula has three health areas and seven health districts. It is estimated that on an average each Inspector has to deal with a population of 30,000, a very high figure for a tropical city and especially for one so overcrowded as Victoria.

#### *Preventive Measures against mosquito and insect-borne diseases.*

Anti-mosquito work has not yet reached a high level in Hong Kong. The Sanitary Inspectors are taught to distinguish between anophelines and culicines but progress beyond this elementary stage has not been attempted. There are no special mosquito inspectors and the anti-mosquito brigade consists of two overseers and a squad of oiling coolies.

The routine work of oiling pools and inspecting premises for the presence of breeding places was carried out by the district inspectors. The usual cutting of undergrowth in May and October was done in conjunction with the Botanical and Forestry Department as regards Crown lands, and with the Military Authorities on military lands.

Anopheline surveys were made at Stanley, Repulse Bay and Sookumpoo and reports submitted to Government.

The relative importance of the different varieties of water collections in the propagation of malaria carrying anophelines has not been fully worked out. This is a very important matter for on its solution depends, to a great extent, the economics of preventive measures. It is hoped in the coming year to establish a class of instruction under the Malariaologist and to tackle the mosquito problem in a scientific manner.

One thing is certain and that is that the nullahs with their inverts strewn with granite rocks and boulders and with tiny pools, seepages and small streams are typical breeding grounds for the dangerous malaria carriers *A. maculatus* and *A. minimus*. The draining of these nullahs so as to obviate all danger of breeding is a matter which is at the same time difficult and expensive. Every year the Public Works Department insert a sum in the estimates for "the training of Nullahs" and every year work up to the limit of the sum sanctioned is carried out. There can be no doubt that the disappearance of malaria from the populated area is in a large measure the result of the drainage works carried out by this Department.

#### *Preventive Measures against Plague.*

In the campaign against plague the routine measures which have been in vogue since the disease was at its height were continued. These were:—

- (a) periodical cleansing of premises—lime washing.
- (b) abolition of rat refuges—such as ceilings, stair linings and panellings.
- (c) destruction of rats.

In the crowded areas the periodical cleansing of premises is a most important factor in the prevention of the spread of disease. Every house is dealt with in its turn at least once a year. All the furniture is removed from the rooms or cubicles and all floors and woodwork washed down with an emulsion of soap and kerosene oil. This is done either by the sanitary staff or by the occupiers under the general supervision of the district inspector. Altogether 152,762 floors were dealt with.

Twenty-eight members of the cleansing staff were employed in setting traps, bird-liming boards, distributing barium-carbonate baits, and collecting rodents which have been taken living or dead. By far the greatest number of rats were taken dead from the many rat reception bins or tins which have been placed in convenient situations throughout the city. The Chinese object to rats being found in their premises by the sanitary staff and

it is not uncommon for them to kill the rodents caught in the Government traps and to throw the carcases into the reception tins. The total number of rats collected was 135,417 of which only 4299 were taken alive. All rats collected were sent to the Public Mortuaries for examination.

During the year four rats only were found to be plague infected and these came from property adjoining the water front. They may have come from some ship, for numerous steamers, junks and sampans tie up at the various wharfs and rats experience no difficulty in passing from ship to shore or vice versa especially during the small hours of the morning.

*Preventive Measures against Small-pox.*

Under the Vaccination Ordinance, all Public Vaccinators are under the control of the Director of Medical and Sanitary Services who is Superintendent of Vaccination. As Registrar of Births and Deaths the Head of the Sanitary Department is responsible for ensuring the vaccination of all children whose births are registered.

Vaccinations were performed by :—

- (a) the Public Vaccinators.
- (b) the M.O's in charge of Government Hospitals.
- (c) the M.O's in charge of Chinese Hospitals.
- (d) the M.O's in charge of Chinese Public Dispensaries.
- (e) the members of the St. John's Ambulance Brigade under the Assistant Commissioner.

Altogether 323,709 were performed.

*Preventive Measures against Cholera, Dysentery, Enteric, etc.*

The usual routine measures against the spread of bowel diseases continued to be taken, viz. the purification of the Public Water Supplies, and the closing of wells.

No case of locally acquired cholera has been notified since September 1922.

*Preventive Measures against Tuberculosis.*

The measures taken against Tuberculosis were :—

- (a) The periodical general cleansing of premises.

- (b) Action taken to prevent the erection of unauthorised cubicles especially those which have defects in the matter of lighting, air space and ventilation.
- (c) Action by the Building Authority to ensure the erection of houses having a proper supply of lighting and ventilation.

The overcrowded condition of the city, its confined area, and the difficulties presented by topographical features together make the question of hygienic housing of the populace one of extreme difficulty. The sanitary staff, (one Inspector to 30,000 people) are working against great odds and they cannot hope to attain results such as are attained in other cities where the task is easier and the personnel larger.

#### *Preventive Measures against Helminthic Diseases.*

There never has been any routine campaign against helminthic disease. Whatever be the percentage of population which carry ankylostomes very few cases of ankylostomiasis come under the notice of the hospital authorities.

#### GENERAL MEASURES OF SANITATION.

*Domestic Cleanliness.*—Every domestic building or part of a building occupied by the members of more than one family must, unless specially exempted by the Sanitary Board, be cleansed and lime-washed throughout by the owner, to the satisfaction of the Board, not less than once in every year, and notice in writing that such cleansing and lime-washing has been completed, shall be sent by the owner to the Secretary within three days after the date of completion.

It is the duty of the occupier of any domestic building to cause such building to be kept in a cleanly and wholesome condition and to see that the drains, traps, gratings, fall pipes, and sanitary fittings and appliances are kept free from obstruction and in an efficient state of repair.

In Hong Kong there are 12,536 Chinese houses with 40,906 floors; in Kowloon there are 7,960 houses and 22,453 floors. During the year 97,692 floors in Hong Kong and 55,070 floors in Kowloon were cleansed—some were done twice and some three times. During the cleansing process all the furniture is moved and the walls and floors washed down with kerosene oil emulsion.

In some cases the work is carried out by the sanitary staff in others the occupants are permitted to do the work under the supervision of the inspecting staff. Considering each Inspector has to supervise a district with approximately 30,000 inhabitants, most of whom are ignorant of the rudiments of sanitation the thoroughness of the cleansing operations is remarkable.

*Scavenging.*—Scavenging which used to be done by contract is now carried out departmentally. There are 16 refuse lorries in use, 11 for Hong Kong and 5 for Kowloon. 268.26 tons were collected daily and removed to various refuse depots. The bulk of the refuse was ultimately disposed of by dumping in the sea at a distance from the city and in such a situation where the currents run from the land. Some of the refuse from Kowloon was used to reclaim low lying land near the sea-shore.

*Sewage Disposal.*—The collection and disposal of night-soil in the Colony is carried out partly by the bucket system and partly by water carriage. With regard to the bucket system arrangements are made with a Contractor for the removal and disposal of excrement under conditions laid down by the Sanitary Board. Human night-soil is a valuable commodity in China where it is used as a fertiliser for the fields, and there is no difficulty in securing a Contractor who will pay a considerable sum for the sole right of removal. Under the present arrangement the Contractor pays \$12,120 per annum to revenue for the contracts for Victoria and Kowloon. Revenue from this source is gradually diminishing owing to the substitution of water closets for pail closets.

The excrement is removed by night from the latrines to a special fleet of junks which convey it up river to China where it is utilised as manure for the mulberry trees on which the silk worms feed.

Owing to the limitations of the water supply on the Island and the need for economy in the matter of consumption, it is necessary to restrict the number of water closets served by the public mains. Where a sufficiency of water can be obtained from other sources such as wells or nullahs, water closets are allowed. With regard to effluents, some enter the public sewers direct, others pass to biological tank systems to be treated before final discharge.

*Drainage—(Subsoil and Surface).*—Drainage, both subsoil and surface, is controlled by the Public Works Department.

*Water Supplies.*—The water supplies of Hong Kong and Kowloon are in charge of the Water Works Branch of the Public Works Department.

All the water is surface water collected from catchment areas which are free from ordinary risks of pollution.

The water, after storage for a longer or shorter period in the impounding reservoirs, is filtered, in some cases by the slow sand system in others by the rapid system and finally chlorinated.

Routine examinations are carried out by the Government Bacteriologist and Government Analyst and the results furnished to the Water Authority. There was no evidence of any disease having been conveyed through the public water supplies.

*Clearance of Bush and Undergrowth.*—Generally speaking, in Hong Kong and the New Territories, bush and undergrowth is little in evidence except in those places where it has been planted and conserved. Routine cutting of superfluous undergrowth is carried out in May and October.

In Hong Kong, as in many other parts of the world, there appears to be a general belief that the cutting of undergrowth and the clearance of bush in some way brings about a diminution in the number of mosquitoes especially the species which carry malaria. Whatever may be the effect on culicines it is a fact that the very potent malaria carriers—*Anopheles maculatus* and *Anopheles minimus* breed in water open to the light and shun that shaded by trees or undergrowth. Clearance of bush may, therefore, result in an increase of malaria rather than in a diminution.

*Sanitary Inspections.*—During the year the Sanitary Inspectors continued their routine visits of inspection. Under their supervision come the domestic houses, common lodging houses, places of common assembly, eating houses, bakeries, etc., etc. As mentioned previously there are approximately 30,000 people per Inspector—and it is physically impossible for any man to carry out the number of inspections necessary to secure a proper standard of sanitation under the conditions prevailing in this Colony.

#### SCHOOL HYGIENE.

The School Inspection Branch of the Medical Department consists of one Lady Medical Officer and one Nurse. These Officers work in close touch with the Education Department.

The following information is taken from the Annual Report of the School Medical Officer.

The average number of pupils daily attending Government School and Schools which receive Government Grants in Aid was 8834.

GOVERNMENT SCHOOLS.

Type.	Number.	Nationality of Pupils.	Average Attendance.
British .....	5	European .....	353
Anglo-Chinese ....	11	Chinese .....	3,424
Indian .....	1	Indian .....	119
			_____
		Total .....	3,896
			=====

The non-government schools receiving grants in aid number 11 of which 6 cater for Chinese only and 5 for Chinese and others. The pupils number altogether 4639.

The premises of all Government and Grant in Aid Schools were inspected and attention drawn to defects. Various improvements in sanitation were made during the year chiefly in the direction of lighting, ventilation and air space.

Inspection of the entrant group with re-inspection, repeated if necessary, for those found defective, has again formed the bulk of the year's work.

	1926	1927	1928	1929
Schools inspected .....	16	18	17	15
Entrants examined .....	1104	1189	1111	1153
Defects found .....	407	426	1616	499
Percentage of Defects in British Schools .....	41.0	37.5	—	37.08
Percentage of Defects in Anglo- Chinese Schools .....	38.8	39.1	—	44.41

Among the 1,153 "entrants" examined 499 defects were found. The principal defects noted were:—Vision 18.1%, other eye troubles 1.2%, heart disease 2.3%, tonsils and adenoids 8.9%, suspected tuberculosis 3.6%, serious dental cases 2.5%, deformity 1.0%, skin diseases 1.0%.

Re-inspection of Children found to be Defective:—

	Re-inspected.	Improved.	Percentage.
British .....	1928	176	59
„ .....	1929	172	95
Anglo-Chinese .....	1928	1440	769
„ .....	1929	1227	673
			33.00%
			55.23%
			53.00%
			45.84%

There are no School Clinics—cases of errors of refraction were seen by Dr. Morrison at his Clinic and examinations made. With regard to other defects, free treatment was offered at the Government Hospitals and at the Chinese Public Dispensaries—most children however attended once only.

With regard to infectious diseases—the M.O.H. notifies the School Medical Officer of any school cases certified by him. Among the pupils there were 37 cases of Whooping Cough, 9 of Chicken-pox, 6 of Diphtheria, 6 of Mumps, 7 of Enteric and 4 of Measles.

Vernacular Schools are not yet receiving the benefit of medical inspection. Last year there were 218 subsidised Vernacular Schools in Urban Districts and 434 non-subsidised Schools with an enrolment of 33,000 children including 12,000 girls. Besides these there are Vernacular Grant Schools and about 150 Rural District Schools.

#### LABOUR CONDITIONS.

The general industrial conditions continued to improve and the labour situation was normal. There are no estates, plantations or mines in the Colony. Practically all the labouring class are engaged in matters connected with commerce, shipping or public works.

Labourers find their own accommodation in the many tenements and lodging houses which exist in Hong Kong or Kowloon.

What factory regulations there are are administered by the Secretary for Chinese Affairs.

There are no special arrangements for the medical care of labourers other than the Government Hospitals, the Chinese Hospitals, the Mission Hospitals and the Chinese Public Dispensaries. The total number of beds available for general diseases is about 1,000 making a proportion of :—

$$\frac{1,000}{1,000,000} \text{ or } 1 \text{ to } 1,000 \text{ approximately.}$$

#### HOUSE AND TOWN PLANNING.

There is no Town Planning Ordinance and Housing comes under that portion of the Public Health and Buildings Ordinance which is administrated by the Public Works Department. There is little or no zoning and blacksmiths shops or even foundries are to be found in the midst of shop houses and domestic houses.

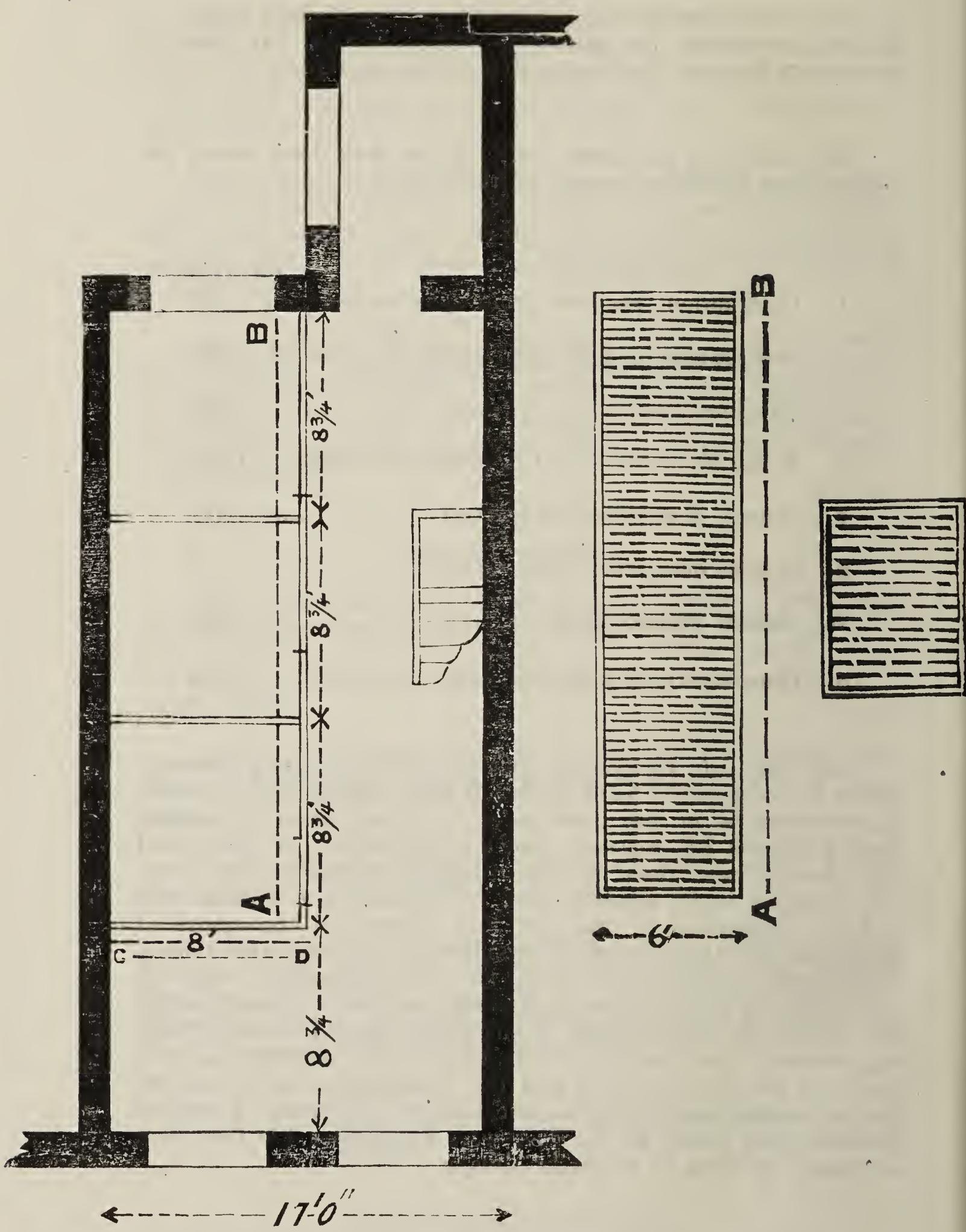
By inter-departmental arrangements the Medical Officer of Health scrutinises the plans of new buildings, but there is nothing in the law which says that this must be so.

The following list shows some of the work done during the year by the buildings branch of the P.W.D.

<i>Nature of Work.</i>	<i>No. of cases.</i>
1. Obstructions removed from open spaces .....	137
2. Obstructions to light and ventilation removed.	1,346
3. Rat runs filled in .....	654
4. Water closets installed in private buildings ...	1,240
5. Houses demolished (domestic) .....	147
6. Houses demolished (non-domestic) .....	8
7. Houses erected (domestic) .....	658
8. Houses erected (non-domestic) .....	15

The city of Victoria is over-housed and over-populated. There is no space to build further houses and the only possible improvement is in the direction of the substitution of unsatisfactory houses by those of model construction. A great deal has already been done by the Building Authority but much still remains to be accomplished. The task is a difficult one and is complicated by the fact that Victoria is the centre of attraction for the stream of immigrants entering the Colony from China. The people must have accommodation and the demolition of each house means an increase of concentration elsewhere; the same applies to eating houses and common lodging houses. One satisfactory feature of the situation is that many of the lots are short and the buildings do not exceed 40 feet in length, and ventilation and lighting is therefore a simpler problem than would be the case were the houses 120 feet deep as occurs so often in towns in Malaya.

The following plan shows the dimensions of a modern house and the arrangement of the cubicles. Provided there be sufficient space in front and behind in the way of street and back lanes, and provided the occupants co-operate and keep the building clean and well ventilated there is no reason why the occupants should not live a healthy life.



**PLAN OF A FLOOR IN A NEW HOUSE  
WITH CUBICLES**

SCALE 1" = 8FT.

#### FOOD IN RELATION TO HEALTH AND DISEASE.

*Inspection and Control of Food Supplies.*—The laws dealing with this subject are the Public Health and Buildings Ordinance and the Sale of Food and Drugs Ordinance.

The authorities responsible under these Ordinances are the Sanitary Department and the Police Department. The Officers authorised to take samples are, "any sanitary inspector or inspector of weights and measures, or inspector of markets, or any Officer of Police acting under the written instructions of the Secretary of the Sanitary Board, or of the Captain Superintendent of Police, or of the Medical Officer of Health".

During the year the following samples were taken under the Sale of Food and Drugs Ordinance and analysed:—Milk 49, bean curd 4, sugar 36, coffee 10, tea 27, lard 6, cheese 13, bread 27, skimmed milk 2, tinned condensed milk 7, tinned milk 23, flour 31, tinned butter 8, fresh butter 21. Prosecutions were undertaken in 2 cases where samples failed to satisfy the legal requirements.

*Deficiency Diseases.*—The only information available regarding deficiency diseases is furnished by the returns of the Government Hospitals and Chinese Hospitals, and the death returns. The Hospitals deal with only a small proportion of the sick and the truth as regards the incidence of disease among the masses cannot be deduced from their returns. The death returns are also misleading in that the majority of cases were not treated by competent physicians prior to death, and the Medical Officer examining the body and forming a diagnosis had no history to assist him in coming to a conclusion as to the cause of death.

*Beri-beri.*—Despite the fact that the staple food of the masses is polished rice, beri-beri is not epidemic, and the deaths from this disease formed only 3.20 per cent of the total deaths. The death rate as far as it can be ascertained was 0.54 per mille population. The total number of deaths recorded during the year was 566. The total number of cases treated in the Government Hospitals was 29 only.

*Rickets.*—No cases were treated in the Government Hospitals. Most Chinese infants are breast fed until they are at least a year old. Rickets is seldom mentioned as a cause of infant death.

*Pellagra.*—One case was treated in the Government Hospitals.

*Scurvy.*—No cases were treated in the Government Hospitals.

*Markets.*—The markets come under the Sanitary Departments. The Central and Western Markets are supervised by a special Overseer who is responsible to the Veterinary Surgeon; the other markets are supervised by the District Sanitary Inspectors.

*Slaughter Houses.*—Slaughter Houses and Animal Depots are controlled by the Sanitary Department. There is a Government depot at Kennedy Town (Hong Kong) for the reception of all cattle, sheep, swine and goats brought into the Colony for slaughter. The Government Slaughter Houses are situated at Kennedy Town (Hong Kong) and at Ma Tau Kok (Kowloon). There are Government controlled slaughter houses at Aberdeen and Sai Wan Ho.

The Government depot and slaughter houses are under the direct charge of the Colonial Veterinary Surgeon and Asst. Colonial Veterinary Surgeon and a staff of four Inspectors.

*Dairies.*—There is a model Dairy-farm in Hong Kong where milk is produced by stall fed cattle under hygienic conditions.

#### TRAINING OF SANITARY PERSONNEL.

The Medical Officers of Health and the Chief Sanitary Inspector hold classes and give lectures but there is as yet no regular school for teaching such as exists in Singapore.

Hong Kong is an examination centre for the Royal Sanitary Institute and every year examinations are held for the Sanitary Inspectors Certificate, for the Sanitary Science Certificate and for the Meat and Food Certificate. Candidates come from as far as Shanghai to take these examinations. The results of the last two tests have, so far as Hong Kong candidates are concerned, been decidedly disappointing and one of the reasons for the high percentage of failures is the absence of a proper school of training.

### SECTION IV.

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#### PART HEALTH WORK AND ADMINISTRATION.

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Reckoned in terms of shipping-tonnage, Hong Kong is one of the five greatest ports in the world. It is the principal commercial entrepôt of Southern China and it is the terminus of the Steamship Lines running between China, Japan, and North America.

In 1929, 4,734 British ocean-going steamers and 7,809 foreign ocean-going steamers entered and cleared the harbour. In addition there were 16,509 river steamers and 23,522 foreign trade junks. The total tonnage of vessels entering and clearing was 39,871,149.

The Medical Staff engaged in Port Health duties consists of two European Health Officers and two Chinese Medical Officers.

The work of the department includes:—

- (a) Routine inspection of ships.
- (b) Quarantine duty.
- (c) Duty in connection with emigration.
- (d) Vaccination

The laws dealing with the subject of Quarantine and Port Health are contained in Table L of the Hong Kong Port Regulations, the Asiatic Emigration Ordinance and the Vaccination Ordinance.

During the year 6,274 inward bound ocean-going vessels were boarded by the Health Officers. Of these 2,366 were on the British register and 3,908 on the foreign register.

River steamers from Canton, Macao and West River Ports, also junks and small crafts were only visited when cases of sickness or death were reported.

During the year 166 special visits were made to ships for the purpose of examining persons suffering from infectious but non-quarantinable diseases. 100 permits for the landing of corpses for burial were granted and 40 bodies sent to the mortuary for post-mortem examination. Fifteen cases of leprosy were detected amongst Chinese passengers. Thirty-three Chinese lunatics and one European lunatic arrived in the Colony during the year. Bills of Health numbering 2,058 were issued.

#### QUARANTINE.

Hong Kong has no quarantine station for ships' passengers or crews. When segregation is necessary it is carried out on board ship at the quarantine anchorage. A limited number of infectious cases can be accommodated at the Government Infectious Diseases Hospital at Kennedy Town but there is little room for contacts.

During the year 7 ships were detained in quarantine; four of these were detained on account of smallpox, in one the cause was cholera, one was cholera suspicious, and one for cerebro-spinal fever.

All vessels arriving from "Infected" ports and those having infectious or suspicious cases on board fly the "Q" flag and go to the quarantine anchorage for examination.

The number of vessels arriving in quarantine was 627 with 81,195 passengers and a crew personnel of 64,877. All were examined and those from smallpox infected ports were vaccinated. Where necessary medical supervision of passengers and crews was carried out before pratique was granted.

The total number of persons medically inspected during 1929 was 442,751 or an average of 1,213 examinations a day.

One hundred and twenty-seven vessels were fumigated during the year. Fumigations are carried out by a private company but each operation is supervised by a Health Officer.

#### EMIGRATION.

The Asiatic Emigration Ordinance No. 30 of 1915 requires that emigrant ships shall have:—

- (1) Proper and sufficient living accommodation.
- (2) Proper and sufficient sanitary requirements.
- (3) Proper and sufficient hospital accommodation.
- (4) A sufficient supply of drugs, medical equipment and disinfectants.

It also makes provision for:—

- (1) A proper diet scale.
- (2) The prevention of the export of the unfit.
- (3) The prevention of the export of infectious disease.

The Vaccination Ordinance 1923 requires that all emigrants from the Colony shall be protected against smallpox by vaccination.

The duty of carrying out the sanitary and medical inspection and for vaccinating those who are insufficiently protected falls on the Port Health Authorities.

Emigrants are classified as:—

- (a) "Free emigrants" or those who pay their own passages.
- (b) Assisted emigrants or those whose passages are paid by their prospective employers.
- (c) Women and children.

The total number of emigrants examined during the year was 235,554 of whom 220,498 were free and 15,056 assisted.

The number of rejections was 750.

The number emigrating in 1929 was less than that in 1928 by 28,300 and 43,191 less than in 1927. This decrease cannot altogether be explained by the depression in the rubber and tin industries of the Straits Settlements, as it is understood that during the same period emigration from the neighbouring ports at Swatow and Amoy has not diminished to the same extent. The emigrant trade which is of such value to this Colony should be fostered and encouraged in every possible manner.

VACCINATION.

The Government Vaccinators are members of the Port Health Staff and work under the general supervision of the Port Health Officer. They are detailed for work at various centres and they assist where needed.

The number of vaccinations performed by these Officers at the centres was 81,238 of which 21,999 were emigrants. To these must be added the vaccinations performed on board ship of those who in the opinion of the examining Officer were insufficiently protected.

Table I.

Showing Emigration Passes and Rejections for 1929.

<i>Port of Destination.</i>	<i>Passenger.</i>	<i>Crews.</i>	<i>Rejected.</i>
Straits Settlements .....	144,509	15,509	497
Canada .....	7,337	12,302	58
United States of America...	11,255	14,401	41
Honolulu.....	7,563	...	4
Dutch East Indies .....	44,689	11,080	85
British North Borneo .....	5,033	2,629	9
Shanghai and Japan .....	5,350	...	...
Australia.....	1,477	2,800	35
South Sea Islands .....	704	294	1
Manila.....	2,143	...	...
Peru .....	1,132	222	7
Chile .....	41	773	...
Panama .....	534	...	2
Mexico .....	173	...	...
Rangoon .....	532	194	8
Mauritius .....	880	...	1
South Africa .....	722	711	2
Hoihow .....	551	...	...
Brazil and Argentine .....	929	210	...
<i>Totals .....</i>	<i>235,554</i>	<i>61,125</i>	<i>750</i>

Table II.

Showing Monthly Returns of Emigrants, Crews and Rejections.

Months.	<i>Ships Examined.</i>	<i>Passengers.</i>	<i>Crews.</i>	<i>Rejected.</i>
January .....	36	18,035	5,737	69
February .....	17	7,274	2,965	15
March .....	34	30,615	5,623	115
April .....	35	29,817	5,682	107
May .....	39	26,284	5,635	103
June .....	30	17,856	4,749	49
July .....	35	17,454	5,621	73
August .....	30	12,807	4,111	45
September .....	33	18,497	5,108	56
October .....	34	20,540	5,397	52
November .....	35	17,659	5,689	24
December .....	32	18,716	4,808	42
<i>Totals.....</i>	<i>390</i>	<i>235,554</i>	<i>61,125</i>	<i>750</i>

Table III.

Showing Causes of Rejection of Emigrants:—

<i>Diseases.</i>	<i>No. Rejected.</i>
Skin Diseases:—	
Scabies .....	57
Tinea .....	1
Favus .....	9
Impetigo .....	3
Scrofulo-dermia .....	1
Eye Diseases:—	
Trachoma .....	132
Ophthalmia .....	4
Blindness .....	3

Infectious Diseases:—

Chickenpox .....	3
Measles .....	2
Phthisis .....	9
Leprosy .....	1
Fever .....	324
Malaria .....	1
Pneumonia .....	1
Beri-beri .....	1
Dysentery .....	1
Syphilis .....	9
Enlarged Spleen .....	16
Lunacy .....	5
Debility .....	125
Deformity .....	26
Exophthalmic Goitre .....	1
Enlarged Glands .....	2
Hernia .....	1
Senility .....	7
Carbuncle .....	1
Sarcoma .....	1
Wounds .....	1
Jaundice .....	2
<hr/>	
Total .....	750

**Table IV.**

Showing the number of ships detained in Quarantine with ports of origin, causes, dates and periods of detention.

Name of Vessel.	Port of Origin.	Cause.	Date of arrival in quarantine.	Date of departure from quarantine.
Aeneas .....	Shanghai	Small-pox	5 21st January, 1929.	21st January, 1929.
Santhia .....	Kobe	"	1 29th January, 1929.	29th January, 1929.
Paul Beau .....	Wuchow	"	1 24th February, 1929.	After fumigation.
Tjikarang .....	Batavia	"	1 10th April, 1929.	11th April, 1929.
Santhia .....	Amoy	Cholera suspicions	1 17th April, 1929.	18th April, 1929.
Tokusima Maru .....	Saigon	Cholera	2 21st June, 1929	25th June, 1929.
Empress of France.....	Manila	Cerebro-spinal Fever	1 28th July, 1929.	After fumigation.

**Table V.**

Showing number of passengers, crews and ships arriving in Quarantine each month, 1929.

Months.	No. of Passengers.	No. of Crews.	No. of Ships.
January .....	2,205	2,550	26
February .....	5,526	7,715	68
March .....	1,703	3,299	24
April .....	413	542	7
May .....	20,478	12,733	112
June .....	18,257	9,242	123
July .....	3,551	2,601	23
August .....	6,855	5,744	70
September .....	10,201	9,806	83
October .....	11,737	10,006	87
November .....	269	639	+
December .....	...	...	...
<i>Totals,.....</i>	<i>81,195</i>	<i>64,877</i>	<i>627</i>

**Table VI.**

Showing Quarantine Notifications issued by the Hong Kong Government for 1929.

Port or Locality.	Disease.	Date and Number of Notification.	Date and Number of Cancellation.
Shanghai ....	Smallpox.	No. 38 of 24th January, 1929.	No. 115 of 7th March, 1929.
Shanghai ....	Cerebro-Spinal Meningitis.	No. 219 of 2nd May, 1929.	No. 323 of 14th June, 1929.
Swatow .....	Smallpox.	No. 220 of 3rd May, 1929.	No. 335 of 25th June, 1929.
Bangkok .....	Cholera.	No. 231 of 7th May, 1929.	No. 365 of 12th July, 1929.
Saigon .....	Cholera and Smallpox.	No. 305 of 13th June 1929.	No. 425 of 22nd August, 1929.
Shanghai ....	Cholera.	No. 403 of 15th August, 1929.	No. 552 of 31st August, 1929.

## SECTION V.

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### MATERNITY AND CHILD WELFARE.

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#### *Ante-natal and Infant Welfare Centres.*

*Tsan Yuk Hospital.*—There is no special Ante-natal Clinic but many pregnant women come before term, for advice and to ascertain the date of labour. They are examined and measured externally and advised accordingly. The Infant Welfare Centre is only for infants born in the hospital. The number of babies brought to the Centre was 476 and the total number of visits 2001. The figures for 1928 were 504 and 3185 respectively.

*Tung Wah Hospital.*—An Infant Welfare Centre was started in April and the attendances numbered 1704.

*The Alice Memorial and Affiliated Hospitals.*—There were 120 attendances for Ante-natal purposes and 450 children were brought to the Infant Welfare Centre. This Centre is also only for children born in the hospital.

In addition to the above the Chinese Y.M.C.A. maintains an Infant Welfare Centre and the Military Authorities have one for the benefit of the children of the European garrison.

#### *Midwives.*

Under the Midwives Ordinance of 1910 “No one whose name is not on the Midwives Register may practice midwifery habitually for gain or describe herself as one specially qualified to carry on the work of a Midwife”.

Training Schools for Midwives have been established at the Alice Memorial, Tsan Yuk, Tung Wah, Kwong Wah and Government Civil Hospitals. The course and study necessary to qualify for examination is two years except for those who have completed a course in general nursing, when it is six months.

During 1929, 25 Candidates out of 27 satisfied the examiners and were registered.

The total number on the Midwives Register at the end of 1929 was 161.

There are seven Midwives on the Government Medical establishment whose services are free to those who cannot afford to pay a fee. Four of these are stationed in the New Territories, two for duty in connection with the Chinese Public Dispensaries and one is attached to the Alice Memorial Hospital. All except the last are supervised by a Government Lady Medical Officer.

During the year 1194 cases were attended by Government Midwives.

*Maternity Hospital Accommodation.*

The total hospital accommodation for maternity cases is 260 beds and the number delivered in hospitals was 8391 (8172 in 1928).

<i>Hospital.</i>	<i>Beds.</i>	<i>Deliveries.</i>
Government Civil .....	21	790
Victoria .....	32	69
Tsan Yuk .....	57	1,185
Wanchai .....	22	921
Tung Wah .....	24	1,992
Tung Wah East .....	10	22
Kwong Wah .....	57	2,865
Alice Memorial .....	18	445
Matilda .....	8	38
Peak .....	2	10
St. Pauls (French) .....	9	54
 <i>Total</i> .....	 260	 8,391
	=====	=====

*Maternity Bungalow at the Government Civil Hospital.*

The Bungalow has accommodation for 21 patients, and is mainly for the use of Asiatic women. Europeans as a rule find accommodation at the Victoria Hospital.

There are three general wards with a total of 16 beds, two private wards with two beds each and one isolation ward with one bed.

The majority of the patients being non-paying, are under the care of the University Clinic.

The admissions during the year were 790 (776 in 1928) making a total of 807 treated—of these 105 were treated by the Government Medical Officers and 702 by the Professor of Obstetrics and his Assistants.

The nationalities were as follows:—

European .....	9
Portuguese .....	3
Japanese .....	37
Indians .....	39
Chinese .....	719
<hr/>	
Total .....	807
<hr/>	

There were seven deaths, all Chinese, the causes being:— Meningitis 1, Beri-beri 1, Hydatiform Mole 1, Anti-partum Hæmorrhage 1, Ruptured Uterus 2 (in both cases the rupture occurred before admission).

#### THE VICTORIA MATERNITY HOSPITAL.

The number of beds in this Hospital is 32.

There were 6 mothers and 3 infants remaining in the Hospital at the end of 1928. During the year there were 86 admissions making a total of 92 treated. There were 69 deliveries, the sexes being male 38, female 36.

The daily average number of patients was 6, including infants.

The Hospital is available for private patients who wish to be attended by their own doctors. Eighteen patients availed themselves of the privilege.

There were no maternal deaths. Five children were still-born.

Two mothers and one infant remained under treatment at the end of 1929.

#### CHINESE MATERNITY HOSPITALS.

There are two Chinese Maternity Hospitals under the management of the Chinese Dispensaries Committee, and in addition there are maternity wards in each of the hospitals under the management of the Tung Wah and Kwong Wah Hospitals Committee. In all the hospitals maternity patients are treated by Western methods.

#### THE TSAN YUK MATERNITY HOSPITAL (57 beds).

The whole of the In-patient work of this Hospital is in the hands of Dr. R. E. Tottenham, Professor of Obstetrics to the University of Hong Kong. Both Maternity and Gynaecological patients are admitted.

Once a week the Assistant Visiting Medical Officer to Chinese Hospitals and Dispensaries Dr. (Mrs.) Dovey conducts an Infant Welfare Clinic for babies born in the Hospital.

The total number of deliveries was 1185 out of a total of 1274 admissions. 91 children were still-born. There were 4 maternal deaths, the causes being concealed accidental haemorrhage, rupture of uterus, post-partum haemorrhage, twin pregnancy complicated by transverse presentation.

#### THE WANCHAI MATERNITY HOSPITAL.

This Hospital of 22 beds is connected with the Wanchai Public Dispensary. A Western trained Chinese Doctor is in charge.

The number of admissions was 957 (1029 in 1928) and the number of deliveries 921 of which 37 were still-births.

There were two deaths, one from eclampsia and one from post-partum haemorrhage.

#### TUNG WAII HOSPITAL MATERNITY WARDS (24 beds).

There are 24 beds available for maternity cases. During the year there were 1992 deliveries out of a total of 2010 cases treated, with 5 maternal deaths.

#### KWONG WAII HOSPITAL MATERNITY WARDS (57 beds).

On September 28th, 1929, a new Maternity Block was opened making the maternity wards in the general block available for general use.

The new Block consists of two large wards each accommodating 25 beds and 7 private wards making a total of 57 beds which is 27 more than were available in the wards of the general block.

From the date of opening to the end of the year 1206 patients were admitted.

The total number of maternity patients treated during the year was 2895 of which 2865 were delivered. There were four maternal deaths—puerperal septicaemia (1), eclampsia (1), ectopic gestation (2).

## SECTION VI.

### HOSPITALS, INSTITUTES, ETC.

The Government Hospitals are:—the Government Civil Hospital, the Victoria Hospital, and the Kowloon Hospital. The Peak Hospital is an institution maintained by Government as a nursing home where patients can be treated by their own doctors.

#### GOVERNMENT CIVIL HOSPITAL.

The Government Civil Hospital which was built in 1874, and which occupies a site in the middle of the most populous area, is the largest Government hospital in the Colony. It has accommodation altogether for 212 beds, 100 of which have been placed under the control of the clinical professors of the Hong Kong University who are also in charge of the outpatients department. Attached to and adjacent to this institution are the Maternity Pavilion and the Mental Hospital.

Dr. T. W. Ware was the Government Medical Officer in charge during the year and he was assisted by Dr. G. H. Thomas and Dr. T. Z. Bau.

The number of inpatients, exclusive of those in the maternity block and Mental Hospital, was 5,108 of which 4,089 respectively 4,905, 4,009 and 986. Out of the total of 5,108, 1,385 were treated by the University staff and 3,723 by the Government Medical Officers.

The daily average number of inpatients was 178; that for the previous year was 175.

The nationality of the patients was:—

European .....	464
Indian .....	1,484
Chinese .....	3,081
Other Asiatics .....	79
 <i>Total</i> .....	 5,108

The inpatients treated by the University staff numbered 1,385 made up as follows:—medical cases 687, surgical cases 552 and gynaecological cases 146.

A large proportion of the total patients received treatment free of charge.

There were 366 deaths and of these 155 occurred within 24 hours of admission. The case death rate was 71.66 per mille as compared with 78.08 in 1928.

1,247 major operations were performed (University Clinic 812, Government Staff 435).

A detailed list of the number of cases treated and the number of deaths is given in the Appendix.

*Malaria.*—There were 448 cases as compared with 273 in 1928.

*Diphtheria.*—Out of 41 cases there were 24 deaths. This high mortality was due to the fact that the majority of cases had the disease well advanced before they were brought for treatment.

*Syphilis* (acquired) accounted for 96 cases as compared with 154 in 1928; gonorrhoeal cases numbered 101 as against 215 in 1928. The figures are too small and the factors too numerous for any useful conclusions to be drawn.

There were 691 accidents of a nature so serious as to require treatment as inpatients.

*The Police Force.*—The total number of admissions and deaths were as follows:—

	<i>Admissions.</i>	<i>Deaths.</i>
Europeans .....	114	1
Indians .....	580	7
Chinese (Cantonese) .....	157	2
Chinese (Wei-hai-wei) .....	83	—
 <i>Total</i> .....	 934	 10
	<hr/>	<hr/>

Government Servants were attended to daily as outpatients between the hours of 9 a.m. and 10.30 a.m. The daily average was 24.

*Out-patient Department.*—This department is open both morning and afternoon. The work is entirely in the hands of the University Staff, except for the V.D. Clinic which is under a Government Medical Officer. The number of attendances was 52,127 (56,947 in 1928) exclusive of V.D. cases. In addition 11,053 patients attended for dressings. The Out-patients received medicines and dressings free of charges. Teaching clinics were held at certain hours. The number of prescriptions dispensed was 43,847, being more than 100 daily.

*X-Ray Department.*—Dr. Farr was in charge during the year. Mr. Skinner, radiographer took up his duties on November 21st.

Miss Siggins continued to officiate as Masseuse and assistant to the massage and electrotherapeutic branch.

A considerable amount of massage, ultra-violet ray treatment and diathermy-ionisation has been done. The demand for treatment in this department is increasing.

	1928	1929
<i>Treatments.</i> —Diathermy .....	}	
Ultra-violet light .....	} 1,791	3,879
Faradism & Galvanism..)		
Fees earned .....	\$3,476	\$3,881
Number of patients X-Rayed .....	1,699	1,728
Films Exposed .....	2,520	3,540

*Maternity.*—The Maternity Pavilion connected with this Hospital is described under the section dealing with Maternity and Child Welfare (V).

#### VICTORIA GENERAL & MATERNITY HOSPITAL.

The Victoria Hospital which was originally built for the accommodation of women and children is now a general and maternity institution. Situated in the residential area well above the level of the town it has a clear view across the harbour of the territory on the opposite side. There are 42 general beds and 32 maternity beds.

During the year owing to paucity of staff there was considerable difficulty in arranging for the provision of a resident medical officer in charge. Dr. J. T. Smalley who had been in charge went on leave in February and did not return until October. During his absence the post was occupied by Major R. H. Lucas, O.B.E., R.A.M.C., until May 5th, by Dr. Jenkins from June 12th to August 12th, and for the remainder of the period by Dr. W. B. A. Moore who took over charge in addition to his own duties as D.D.M.S.S.

The total number of patients treated was 506 of which 176 were males and 330 females. The average daily number was 21.

The nationality of those treated was:—

	<i>Males.</i>	<i>Females.</i>
Europeans .....	176	318
Chinese .....	0	10
Eurasians .....	0	2
	—	—
Total .....	176	330
	—	—

There were seven deaths.

During the year 140 operations were performed under general anaesthesia as compared with 219 in 1928.

704 visits were made by patients to the out-patient department.

The maternity side of the institution is described in the section dealing with Maternity and Child Welfare (v).

#### KOWLOON HOSPITAL.

Dr. I. Newton was in charge till February 28th when he was relieved by Dr. D. J. Valentine, M.C.

Dr. J. E. Dovey attended in the Out-patient Department.

Dr. A. D. Wong was Assistant Medical Officer throughout the year.

1,231 patients were admitted (1,172 in 1928), of which 1,082 were males and 149 females. The nationalities were made up as follows:—

	<i>Males.</i>	<i>Females.</i>
Europeans .....	213	161
Chinese .....	864	815
Other Asiatics .....	154	106

Daily average number of patients ..... 41

Number of Police admitted:—

<i>Europeans.</i>	<i>Chinese.</i>	<i>Indians.</i>
50	237	—

During the year 164 operations were performed under general anaesthesia.

*Out-patient Department.*—The number of out-patient visits recorded as compared with the previous years were as follows:—

	1927.	1928.	1929.
New Cases .....	6,918	9,626	9,987
Old Cases .....	2,067	3,482	3,197
Dressings .....	2,129	3,980	3,086
	—	—	—
Total .....	11,114	17,088	16,270
	—	—	—

The External Diseases of the eye cases increased from 4,699 in 1928 to 5,537 in 1929 and the number of prescriptions dispensed in the Out-patient Department was 12,405.

Male patients suffering from active venereal diseases were referred to the Venereal Diseases Clinic at the Government Civil Hospital, and women were referred to the Tsan Yuk and Kwong Wah Hospitals.

There is no 3rd Class accommodation in the Hospital for Chinese or Indian women.

#### GOVERNMENT DISPENSARIES.

The Dispensaries maintained by Government during the year under review were the Taipo Dispensary and the Un Long Dispensary.

#### TAIPO DISPENSARY—(New Territories).

During the year Dr. C. H. Luk was Chinese Medical Officer in charge. The number of visits during the year as compared with 1928 was as follows:—

	1928.	1929.
New Cases .....	2,386	2,471
Old Cases .....	1,987	1,988
Vaccination .....	1,675	2,132
	—	—
Total .....	6,048	6,591
	—	—

#### UN LONG DISPENSARY—(New Territories).

This Dispensary—which is in charge of a dresser—is visited twice a week by Dr. Luk. The number of cases treated during the year was 5,806 as compared with 4,168 in 1928. The number of vaccinations was 1,730—the number for 1928 was 485.

#### VENEREAL CLINICS.

The Venereal Diseases Clinic at the Government Civil Hospital was under Dr. H. A. Fawcett until August when it was taken over by Dr. K. H. Uttley.

The Clinic was only open on Wednesdays and Fridays from 5 to 7 p.m.

The total number of cases treated was 2,907—an average attendance of 41.7 on each day.

The total number of new cases was 439 of which:—

184 were Syphilis,  
185 were Gonorrhoea,  
70 were Chancroid.

The total revisits were 2,499.

A weekly Venereal Clinic was held at the Tsan Yuk Maternity Hospital. The cases seen totalled 223.

Venereal cases are seen at the Out-patient departments of the various hospitals and at the Dispensaries.

#### THE CHINESE HOSPITALS AND DISPENSARIES.

The Chinese Hospitals (4 in number viz. 3 general and 1 for infectious diseases) are Chinese Institutions whose relation to Government has been established by Ordinance. They are subsidised by Government, are subject to inspection by certain Government Officials and each has a Chinese member of the Medical Department on its Resident Staff.

The authority in administrative control is a Committee of Chinese gentlemen elected each year by the subscribers.

These Hospitals were originally established to give accommodation to those Chinese whose fears and prejudices against Western Medicine prevented their applying for relief at the Government Hospitals. The Tung Wah Hospital situated in Hong Kong was first occupied in 1873. The Kwong Wah Hospital was built in Kowloon in 1911 as an extension of the Tung Wah. The Tung Wah Eastern Hospital another branch of the Tung Wah situated in the eastern district of Victoria was opened on November 27th, 1929.

The Government gave the sites free and with grants of money assisted in the erection of the buildings.

The activities of the Chinese Hospitals include :—

- (a) The care of the sick and treatment by Western methods or Chinese methods according to the wish of the patient.
- (b) Maternity benefits and infant welfare—by Western methods only.
- (c) Assistance to the destitute.
- (d) The provisions of coffins for, and the burial of the dead.
- (e) Vaccination.
- (f) Health propaganda.

*Progress in the Chinese Hospitals.*—Much progress has been made in all departments of the Hospitals during the last few years. The improvements include :—

- (a) The appointment of University graduates as full-time Resident Medical Officers.
- (b) The foundation of training schools for female nurses.
- (c) Extensions and improvements in the male nursing section.
- (d) The establishment of Clinical laboratories in charge of full-time laboratory assistants.
- (e) The installation of a shadowless scialytic lamp in the operating theatre.
- (f) The provision of X-ray apparatus.
- (g) The purchase of a motor ambulance.
- (h) Improvements in the accommodation for patients.
- (i) Improvements in quarters for staff.

The training course for nurses is spread over three years, the first two for general work, the third for obstetrical training.

A few years ago Surgery in the Chinese Hospitals was almost non-existent. In 1928 there were 673 operations performed many of which belong to the category of major operations. The growth of this side of curative medicine shows the advance which has been made in the campaign against prejudice. This has been brought about by a combination of factors chief among which are the improvements which have been made in Wards and Theatres, the better nursing, the keenness of the Directors and of the Staff, and last but by no means least the stimulating influence of the Government Visiting Medical Officers.

*The Chinese Public Dispensaries*, eight in number, were established for the purpose of supplying medical advice and treatment on Western lines. Situated in the most thickly populated districts they fulfil a very useful purpose, not only in the matter of treatment but also as foci for the spread of knowledge concerning the causes of disease, the means of spread and the value of Western drugs and methods both in prevention and cure.

Each Dispensary is controlled by a separate Committee of Chinese gentlemen who work in close touch with the Secretary for Chinese Affairs and each is in direct charge of a Chinese Medical Practitioner qualified in Western Medicine.

Both Hospitals and Dispensaries receive yearly grants from Government funds.

There are three Officers of the Government Medical Department whose whole time duty it is to visit the various Chinese Medical Institutions—both hospitals and dispensaries—and to give advice and assistance.

Dr. E. W. Kirk was Visiting Medical Officer to the Chinese Hospitals and Dispensaries during the year. Dr. (Mrs.) A. L. J. Dcvey was Assistant Medical Officer and Dr. (Miss) P. C. Lai was second assistant.

#### THE TUNG WAH HOSPITAL.

The number of beds in this hospital is 460 of which 24 are reserved for maternity cases.

The staff consists of a Chniese Government Medical Officer, paid by the Government, and three Resident Medical Officers whose salaries are paid by the Hospital. There are in addition a number of Chinese Doctors who practise Chinese Medicine for the benefit of those who prefer that treatment.

The total number treated during 1929 was 220,243 of which 191,877 were treated by Chinese Methods and 28,366 by Western Methods. The number of in-patients was 12,806 including 2,010 maternity patients. Deducting the maternity cases, all of whom are treated by Western methods, the general cases numbered 10,796, of which 7,107 or 65.8 per cent were treated by Western methods.

The number of out-patients was 207,437 of which only 21,259 or 10.2 per cent chose Western treatment.

586 operations were performed, many of those being major operations.

*Deaths:*—There were 2,288 deaths, a large number of which occurred within 24 hours of admission.

In addition 1,571 bodies were brought to the hospital for burial.

The Maternity work of this Institution is described in the section dealing with Maternity and Child Welfare (V).

#### THE KWONG WAH HOSPITAL.

General beds 234. Maternity beds 57.

This hospital is an extension of the Tung Wah Charity. Situated in Kowloon it provides for the Peninsula what the Tung Wah Hospital does for Hong Kong.

The staff consists of a Chinese Government Resident Medical Officer, whose salary is paid by the Government, and two other Resident Medical Officers paid by the Hospital.

There are also a number of Chinese Doctors who practise Chinese Medicine.

The total number of patients treated was 144,076, of which 96,669 were treated by Chinese methods and 47,407 by Western methods.

The number of in-patients was 9,065 including 2,895 maternity cases. Deducting the maternity patients, all of whom are under Western treatment, the general cases numbered 6,170 of which 2,876 or 46.6 per cent were treated by Western methods.

The number of out-patients was 135,011 of which 41,191 or 30.5 per cent chose Western treatment, and 93,820 Chinese treatment.

87 operations were performed under general anaesthesia.

*Deaths:*—There were 2,426 deaths and of these 906 died within 24 hours of addmission.

698 bodies were brought to the hospital for burial.

#### THE TUNG WAH EASTERN HOSPITAL.

This hospital was opened on November 27th, 1929. It is an extension of the Tung Wah Hospital and is intended to serve the eastern portion of the City of Victoria. The hospital is built on modern lines and has central heating. There are 125 beds, 10 of which are reserved for maternity.

The staff consists of a Chinese Government Medical Officer; whose salary is paid by Government, and two Resident Medical Officers paid by the Hospital.

As in the case of the Tung Wah and Kwong Wah Hospitals, patients may choose either Western or Chinese treatment.

The total number of patients treated was 1,831, of which 1,503 were treated by Chinese methods and 328 by Western methods. The number of in-patients was 223 including 22 maternity cases. Deducting the maternity cases all of whom are treated by Western methods, of the remaining 201 general patients 96 or 47.7 per cent were treated by Western methods. The number of out-patients was 1,608 of which 210 or 13 per cent chose Western treatment.

*Deaths:*—There were 31 deaths in hospital.

#### THE CHINESE PUBLIC DISPENSARIES.

The Dispensaries, eight in number, treated a total of 209,355 patients during the year. (191,152 in 1928).

Each Dispensary is in charge of a Chinese Medical Officer trained in Western Medicine.

In addition to ordinary work of a dispensary, these Institutions serve as places where the poor may apply for assistance in matters connected with:—

- (a) the removal of patients to hospital.
- (b) certification as to causes of death.
- (c) removal of corpses to mortuaries.
- (d) supply of coffins.

The work done by these Dispensaries increases year by year. As only Western treatment is dispensed, it is evident that the Chinese are not adverse to Western treatment where it is easily available.

The dispensary at Shaukiwan was found too small and a new building was erected. This was opened in September. This dispensary and the one at Yaumati are both greatly patronised by the boating population.

Plans for the rebuilding of the dispensary at Yaumati are under consideration.

Free vaccination is available at all Dispensaries.

Gynaecological Clinics are held once a week at each dispensary by one of the Lady Assistant Visiting Medical Officers.

The following table shows the work done during the year:—

SUMMARY OF WORK DONE BY THE CHINESE PUBLIC DISPENSARIES IN VICTORIA AND IN THE KOWLOON PENINSULA.

Dispensaries.	Patients		Certificate of cause of death.	Patients sent to hospital.	Patients removed to hospital by Ambulance.	Corpses removed to hospital or Mortuary.	Applications for coffins.	Dead infants brought to Dispensary.	Vaccina- tions done in Dis- pensary.	Gynaecolo- gical cases seen by Lady Doctor
	New cases.	Old cases.								
Central Dispensary,....	12,433	13,316	—	32	12	54	54	13	3,315	230
Eastern ,,, ,,,	11,769	10,154	9	12	36	60	343	343	3,657	722
Western ,,, ,,,	10,306	11,576	48	—	40	332	293	—	2,806	—
Harbour and Yaumati Dispensary,.....	29,734	28,403	87	33	101	199	—	191	4,993	64
Shaukiwan Dispensary, .....	22,245	12,631	22	68	9	7	—	121	4,607	1,337
Shamshuiipo Dispensary, .....	10,725	6,893	—	79	—	—	—	—	4,671	110
Hung Hom Dispensary, .....	10,502	6,600	70	161	60	133	—	—	1,970	506
Kowloon City Dispensary, .....	6,916	5,152	104	74	36	111	—	—	125	623
									86	1,545
										30
Total 1929, .....	114,630	94,725	340	459	294	1,033	453	1,282	27,564	4,764
Total 1928, .....	109,894	82,258	367	561	246	961	421	1,322	49,910	5,894

### INFECTIOUS DISEASES HOSPITAL.

There are two Infectious Diseases Hospitals—one maintained by the Government and the other by the Tung Wah Charity. They are situated at the Western end of the City of Victoria in adjoining compounds. There is no Infectious Diseases Hospital in Kowloon.

#### THE GOVERNMENT INFECTIOUS DISEASES HOSPITAL.

This was originally a Police Station, but was adapted as a hospital and has accommodation for 26 beds in six wards.

During the year the hospital was under the charge of Dr. T. W. Ware. Except when there are patients occupying it there is only a skeleton staff on the premises.

During the year 32 cases of smallpox were treated. The following cases were admitted as suspected smallpox:—Scabies 1, Chicken-pox 1, Fever undefined 2. A case of Enteritis was admitted for observation as suspected Cholera. In addition 3 cases of leprosy were treated.

The following table shows the Nationality and sex of those treated for smallpox:—

Nationality.	Remaining at the end of 1928.	Number treated.			Died	Remaining at the end of 1929.
		Male	Female	Total		
Europeans .....	3	11	4	18	1	Nil
Chinese.....	1	...	...	1	...	„
Other Asiatics.....	2	10	1	13	1	„
Total.....	6	21	5	32	2	..

#### THE TUNG WAH INFECTIOUS DISEASES HOSPITAL.

The Tung Wah Infectious Diseases Hospital, erected by the Tung Wah Charity Organisation in 1902, consists of three two-storied blocks of wards and an administrative block all connected on both floors by covered ways. The ground floor wards are divided into four cubicles by partitions six feet high, the top floor wards are open all through.

There is accommodation for sixty beds.

The Institution is under the same management as the Tung Wah Hospital and when occupied is staffed by that hospital.

This hospital was built for the purposes of treating Chinese patients who from fear or prejudice objected to entering the Government Hospital. As in the General Hospital under Chinese Management the patients may choose either Eastern or Western treatment. The majority of patients choose to be treated by the Chinese Herbalist.

During 1929 only Smallpox cases were treated. The number of admissions was 186 making a total of 196 cases treated. The number of deaths was 85 giving a percentage of deaths to treated of 42.8.

It is said that the Chinese believe wind, water and scrutiny by strangers to be detrimental to recovery in cases of Smallpox. Whether this be true or not, the cases are kept carefully wrapped up in their own clothes until death or recovery.

## SECTION VII.

### PRISONS AND ASYLUMS.

#### PRISONS.

The principal prison of the Colony is situated in Victoria, a branch prison being situated at Lai Chi Kok on the Kowloon side of the Harbour. The former has accommodation for 800 prisoners, the latter for about 500. Females are only received at Victoria Gaol.

During 1929 the general health of the prisoners continued to be satisfactory.

The total number of admissions to Victoria Gaol was 5779, the daily average number of inmates was 744, the average daily number of sick was 24.44, the sickness rate was 32.8 per mille and the death rate was 18.8 per mille.

The daily average number of prisoners at Lai Chi Kok was 331, the total number treated in hospital was 503 and the daily number of cases in hospital was 5.

The hospital at Victoria Gaol accommodates 30 patients. During the year 30 prisoners were transferred to the Government Civil Hospital for treatment not available in the prison hospital.

In the female prison there was one birth and one miscarriage.

There were 14 deaths from natural causes, 10 of which took place in the Gaol Hospital, three at the Government Civil Hospital and one at the Mental Hospital.

There were four executions.

The following statistical Table shows totals, averages and percentages for the years 1921—29 inclusive:

STATISTICAL TABLE SHOWING TOTALS, AVERAGES AND PERCENTAGES IN COMPARISON WITH PRECEDING EIGHT YEARS.

Year.	Total Number of Prisoners admitted to Victoria Prison.	Daily Average Number of Prisoners in Victoria Prison.	Sick in Victoria Gaol Hospi- tal.	Out-patients.	Daily Average Number of Admissions to Victoria Prison Hospital.	Deaths due to disease at Vic- toria Prison Hospital.	Prisoners in T'hai Chi Kuk Prison.	Sick in Victoria Gaol Hospi- tal.	Out-patients.	Daily Average Number of Admissions to Hospital to Victoria.	Deaths due to Disease at Vic- toria.	Daily Average in Victoria Gaol	Hospital to Daily Average of Prisoners in Victoria Gaol.	Deaths due to Disease, to Total Admissions to Victoria Gaol.	Rate % of
1921.....	4,900	9,298	13	158	236	22	9,298	606	6.0	25.20	4.82	0.99	0.27		
1922.....	5,014	14,911	8	130	362	32	14,911	657	7.6	40.00	7.22	1.16	0.16		
1923.....	5,051	19,324	10	187	327	30	19,324	674	7.1	52.90	6.47	1.05	0.20		
1924.....	7,382	16,381	7	228	402	37	16,381	838	10.1	44.14	5.44	1.20	0.09		
1925.....	6,339	18,603	28	303	580	50	18,603	813	14.0	50.90	9.15	1.72	0.44		
1926.....	6,654	6,129	10	300	585	55	6,129	754	19.3	16.78	8.79	2.56	0.15		
1927.....	7,740	7,891	14	421	355	33	7,891	774	9.01	21.62	4.59	1.16	0.18		
1928.....	5,756	13,787	4	329	337	33	13,787	742	13.43	37.70	5.85	1.81	0.06		
1929.....	5,779	12,678	14	331	586	744	12,678	744	24.44	34.73	10.14	3.28	0.23		

#### THE MENTAL HOSPITAL.

The Mental Hospital which is an annex to the Government Civil Hospital has accommodation for 14 Europeans and 18 Asiatics.

This Institution is intended to be used only as a temporary abode for the mentally affected pending arrangements being made for their transfer to Europe or to Canton.

The Medical Officer of the Government Civil Hospital is in administrative charge.

#### *Patients.*

Remaining from 1928 .....	38
Admissions during the year .....	252
	— 290
Discharged apparently cured .....	146
Transferred to the Mental Hospital, Canton .....	93
Died .....	20
Remaining at the end of 1929 .....	31
	— 290

### SECTION VIII.

#### METEOROLOGY.

1. Situated just within the northern limits of the tropics occupying an insular position immediately to the south of the great mass of China, Hong Kong's climate is very materially influenced by the direction of the prevailing winds.

2. The North East Monsoon blows from November to May and during this period the weather is dry, cool and invigorating. From May until October, the season of the South West Monsoon, the air is highly charged with moisture and the climate is hot, muggy and enervating.

3. The mean annual temperature is 72°. During the Summer months the average maximum temperature is 87° and there is little difference throughout the 24 hours. Situated on the North side of the Island the City of Victoria gets all the heat and moisture of the South West Monsoon but not the breeze itself which is cut off by the mountain behind the town. During the Winter months the range of temperature is from 70° to 45° with an average of 66°.

4. The average yearly rainfall is 85.72 inches. As might be expected most of the rain falls in the Summer months, May, June, July, August and September.

5. July, August and September are marked by atmospheric disturbances which now and then culminate in typhoons or cyclones accompanied by blinding sheets of rain.

6. The abnormality which caused most concern to the Public Health Authorities was the drought in the first half of the year which following on that of 1928 caused a serious shortage of water. The following table shows the rainfall for the first two quarters and the average for the same periods for the last fifty years.

	1929.	<i>Mean for last 50 years.</i>
1st Quarter .....	2.02	6.09
2nd ,,, .....	12.35	33.415

The fall in July of 22.7 inches which exceeded the average for that month by 8.55 inches terminated the crisis.

## METEOROLOGICAL DATA.

The following Table gives the means or totals of the meteorological data for the several months of the year 1929.

Month.	Temperature.			Humidity.			Wind.		
	Barometer at H.S.L.	Max.	Mean.	Min.	Abs.	Rel.	Cloudiness.	Rain.	Velocity.
January	30.15	66.9	62.5	59.4	76	0.43	164.0	0.930	13.6
February	30.12	63.1	58.9	55.6	79	0.40	74.0	0.585	11.7
March	30.11	70.6	64.9	61.1	73	0.46	186.0	0.505	10.8
April	30.00	76.5	71.2	67.8	75	0.58	171.9	1.540	11.4
May	29.84	82.6	78.1	75.0	84	0.81	153.8	6.620	12.4
June	29.75	87.1	82.5	79.4	79	0.88	206.9	4.195	10.7
July	29.68	85.9	81.6	78.1	84	0.90	175.7	22.700	10.0
August	29.71	85.8	81.1	77.6	72	0.90	179.8	20.020	9.2
September	29.87	85.4	81.2	77.8	57	0.84	211.5	10.795	12.7
October	30.00	80.6	76.5	73.2	69	0.63	288.6	0.140	13.2
November	30.14	72.2	67.7	63.7	64	0.44	189.7	1.375	12.3
December	30.11	68.8	64.7	60.9	78	0.49	143.0	0.420	11.0
Mean or Total	29.96	77.1	72.6	69.1	77	0.65	178.7	5.819	11.6

## SECTION IX.

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### SCIENTIFIC.

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#### BACTERIOLOGICAL INSTITUTE.

The activities of the Institute include:—

- (a) the preparation of vaccine lymph.
- (b) „ „ „ sera.
- (c) „ „ „ bacterial vaccines.
- (d) „ „ „ rabies vaccine.
- (e) examination of pathological material.
- (f) „ „ „ waters, milks, etc., etc.
- (g) medical research.

The Institute is under the charge of the Government Bacteriologist who is assisted by the Asst. Bacteriologist and three unqualified laboratory assistants.

Particulars of the work done during the year are contained in the Annual Report of the Bacteriologist—which is appended.

#### THE PUBLIC MORTUARIES.

There are two Public Mortuaries, one being in Victoria and the other in Kowloon.

At these places for the reception of the dead are received:—

- (a) bodies from Chinese Hospitals and Dispensaries for diagnosis.
- (b) “dumped” bodies—that is to say—bodies which have been taken from the place of death under cover of night and dumped in the street to save trouble and expense. The great majority of these have died natural deaths and there is no need for concealment.
- (c) bodies sent by the Police for medico-legal examination.
- (d) bodies sent by the Medical Officer of Health for examination for signs of infectious disease or for simple diagnosis.

In all cases where a diagnosis cannot otherwise be made a *sectio cadaveris* is performed.

All dead rats collected by the Sanitary Authorities are taken to the Mortuaries for examination with regard to plague. Some of these are caught by the rat catching gang but the majority are taken from the rat boxes or bins placed about the city for the reception of dead rodents.

Up to a few years ago the Mortuaries were in charge of the Bacteriologist; now they are under Medical Officers who have been detailed for that work in addition to some other duty.

PUBLIC MORTUARY, VICTORIA.

*Report on Post-mortem Examinations, 1929.*

Number of post-mortem examinations performed .....	3,881
Male bodies examined .....	1,765
Female bodies examined .....	2,116
Claimed bodies sent from hospitals, &c. ....	47
Unclaimed bodies mostly abandoned .....	3,834
Number of Chinese bodies examined .....	3,873
,,     ,, European .....	4
,,     ,, Japanese .....	1
,,     ,, Indian .....	3
 <i>Total</i> .....	 3,881

Bodies were received from the following sources:—

Victoria District .....	3,724
Harbour Police .....	34
Shaukiwan District .....	103
Other Villages .....	20
 Number of rats examined .....	87,798
Number found plague infected .....	4

PUBLIC MORTUARY, KOWLOON.

*Report on Post-Mortem Examinations, 1929.*

Number of post-mortem examinations performed .....	2,626
Male bodies examined .....	1,621
Female bodies examined .....	1,005
Claimed bodies sent from hospitals, &c. ....	517
Unclaimed bodies mostly abandoned .....	2,109
Number of Chinese bodies examined .....	2,613
,,     ,, European .....	6
,,     ,, Indian .....	1
,,     ,, Unknown .....	6
 <i>Total</i> .....	 2,626

Bodies were received from the following sources:—

Kowloon District .....	2,333
Harbour Police .....	293
Number of rats examined .....	47,631
Number found plague infected .....	Nil.

#### ANALYST'S DEPARTMENT.

The report of the Government Analyst is given in the Appendix.

### APPENDIX A.

#### GOVERNMENT BACTERIOLOGICAL INSTITUTE.

Report for the year 1929.

By E. P. Minett, M.D., D.P.H., D.T.M. & H.  
Government Bacteriologist.

#### STAFF.

Dr. Dunscombe the Assistant Bacteriologist was absent on sick leave from January 1st to March 31st and resigned from the service June 30th.

Dr. Laing was appointed as temporary Bacteriological Assistant on July 3rd.

Mr. Chong Shiu Lam was appointed as fourth Laboratory Assistant on May 8th.

#### RESEARCH WORK.

Owing to frequent changes in the staff very little work was possible in this direction.

A paper on the water supplies of the Colony was prepared by the Government Bacteriologist and sent for publication.

The Reductase test for the bacterial content of fresh milk was worked out in the laboratory and accurate records of the results, controlled by the total bacterial and B.C.C. content obtained, both as regards cold storage and room temperatures. The test is now undergoing a further trial under field conditions at the Dairy Farm.

A large number of Malaria parasites were identified for the malaria investigations carried out by the Assistant Medical Officer of Health in schools and the Medical Officer in charge of Lai Chi Kok Prison.

The Medical Officer in charge of the Victoria Gaol and Mortuary was assisted with differential blood counts in Beri-beri cases, and by the identification of organisms in cases of meningitis.

Experiments were carried out with the calf lymph prepared in the Institute as regards its efficiency, using rabbits for intradermal inoculation; it was found to be fully efficient in a dilution of 1 in 100, in a dilution of 1 in 1,000 it gave a very high percentage of positive reaction.

This question of lymph dilution is being further investigated and will be reported upon later.

#### PREPARATION OF CALF LYMPH.

The preparation of fresh calf lymph was carried on during the cooler months of the year.

The supply of Buffalo calves was slightly above that of last year, but is still short of the demand. The number of calves vaccinated during the year was 117, an increase of 27 over the previous year.

The average yield per calf was from 80 to 100 cc. of the finished product, glycerinated lymph.

The quantity of lymph issued during the year was 13,350 cc. an increase of 2,227 cc. over last year.

The lymph was issued in capillary tubes and also in collapsible metal tubes as required.

The quantity of lymph in stock at the end of the year was 4,342.7 cc. calculated sufficient to vaccinate 130,281 persons.

The increase in the lymph issue was due largely to the carrying out of two vaccination campaigns by the St. John's Ambulance Association in the year under review, owing to the prevalence of small-pox in the Colony.

The value of the free issue of lymph was \$23,469.80, an increase of \$2,506.10 over last year.

The Institute was able to supply the local demands for lymph, also those of the Naval and Military forces during the year.

#### ANTI-MENINGOCOCCUS SERUM.

During the year 4,980 cc. were issued of which 900 cc. was a free issue. The value of the free issue was \$135.00.

The balance remaining in stock was 68,705 cc.

The agglutination reaction of the serum was tested as each batch was removed from cold storage and found to be satisfactory before issue.

Sterility tests before issue were carried out as required by the Therapeutic Substances Regulations 1927.

#### CONTAGIOUS ABORTION VACCINE.

No cases occurred during the year and no vaccine was issued; the stock cultures were kept under cultivation ready for immediate use.

#### MILK ANALYSIS.

The number of samples examined was 190, an increase of 82 over those of last year.

Samples of both fresh and Pasteurised milk were examined weekly during the year.

#### ANTI-RABIES TREATMENT.

It is regretted that it was not possible to isolate and fix a local strain of Rabies Virus during the year. The only dog's brain, of those examined, which showed the presence of negri bodies was too decomposed for use.

Seventy-seven persons received Pasteur treatment during the year, the number of individual doses issued being 1,308.

The value of the free issue was \$1,140.00.

Fourteen dogs' brains were examined during the year, the result being:—

Negri bodies present .....	1
Negri bodies absent .....	13
<i>Total</i> .....	14

#### EXAMINATION OF DISINFECTANTS.

Two samples of disinfectants were examined by the Rideal Walker test during the year at the request of the Medical Officer of Health.

#### ANTI-PLAQUE WORK.

Two cases of human plague were investigated at the Institute and pure cultures of *B. pestis* were isolated from infected glands in both cases.

Two rats were found to be infected with *B. pestis*, one was found in the same house as a human case and the other in a house near by.

Microscopic inspection of rats was carried out by the Medical Officers in charge of Victoria and Kowloon Mortuaries, any suspicious material being sent up to the Institute for further investigation.

Of a very large number of specimens sent up during the year *B. pestis* was identified in three cases only including the two cases noted above.

Local rodents examined were:—

*Rattus Norvegicus.*

*Rattus Rattus.*

*Mus Musculus.*

The examination and identification of fleas combed out from live rats was taken up by the Institute in August this year.

Up to the end of the year 362 fleas taken from 75 rats have been identified, and the Health District in which they were captured, noted for the purpose of a full report later.

The percentage of species identified was as follows:—

Xenopsylla cheopis .....	94.8
Ctenocephalus .....	2.8
Ctenopsylla .....	2.4
<i>Total</i> .....	100.0

The *X. cheopis* index per rat was 4.72; this agrees very closely with a former investigation carried out by the Medical Officer of Health when the *X. cheopis* was 4.82.

#### MEDICO-LEGAL WORK.

Thirty-three articles were examined for medico-legal purposes during the year at the request of the Criminal Investigation Department.

#### MALIGNANT DISEASE.

Sixty-three specimens were examined during the year principally from Public Institutions.

#### VACCINE DEPARTMENT.

The following stock vaccines were issued during the year under review:—

T.A.B. Vaccine .....	591 doses	Value of free issue
,, , (intravenous).	16 ,,	\$295.50.
,, ,	Value of free issue	
,, ,		\$8.00.
Cholera ,,	80 ,,	No free issue.
Plague ,,	10 ,,	

Gonococcus Vaccine, 966 cc. were issued to the Government V.D. Clinics in strengths of 100 millions and 1,000 millions per cc. The value of the free issue was \$2,415.00.

#### AUTOGENOUS VACCINES.

Special vaccines were prepared in fifteen cases—ten at the request of private Medical Practitioners and five for Government Institutions.

#### CLINICAL EXAMINATIONS.

The total number of specimens examined during the year was 7,828 an increase of 658 over last year.

The increase is largely due to the Government Bacteriological Institute undertaking to do this work for Chinese Hospitals and Clinics free of charge; this branch of the Institute's work will continue to increase as Western methods of medical treatment are adopted in the Chinese Institutions.

15.—BACTERIOLOGICAL EXAMINATION OF WATER SUPPLIES.

The number of samples of water examined during the year was 1,791, an increase of 292 samples over last year. The following table gives the sources from which these samples were obtained:—

Tap waters in Victoria and Kowloon ...	1,074
Filter Bed samples for Water Authority .....	233
Well waters for M. O. H. ....	70
Imported River Waters from West Rivers &c. ....	76
Public Tank supplies .....	162
Nullah water for P. W. D. ....	17
Miscellaneous samples .....	159
 <i>Total</i> .....	 1,791

The private water supplies of the Dairy Farm were examined weekly. Specimens were also examined on several occasions at the request of a sugar factory, dockyard and mineral water factory; all the above supplies were satisfactory.

The public water supplies both in Victoria and in Kowloon continue to maintain a high standard of purity.

Domestic filter candles were examined and sterilized regularly for various Government and other Institutions, the total number dealt with being 352.

The necessity for importing large quantities of highly polluted river water into the Colony during the recent drought threw a large amount of extra work on to the Government Analyst together with the Institute; but thanks to prompt chlorination and efficient control a constant supply of excellent potable water was maintained.

Nature of Examination.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for 1929.	Total for 1928.
With B. typhosus, .....	67	55	56	64	74	89	108	75	68	57	46	33	792	700
" " paratyphosus A,..	67	55	56	64	74	89	108	75	68	57	46	33	792	700
" " B,..	67	55	56	64	74	89	108	75	68	57	46	33	792	700
Wassermann Reaction, .....	144	89	141	143	172	115	184	187	125	159	156	126	1,741	1,319
Malaria Parasites, .....	58	31	22	53	60	63	196	117	44	51	73	26	794	737
Filaria, .....	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Blood counts etc., .....	...	1	7	8	3	1	3	3	6	...	4	...	36	42
Bacillus diphtheriae, .....	58	35	24	59	29	19	17	17	15	63	67	32	435	430
Meningococci, .....	1	...	1	11	8	4	1	...	1	1	...	...	28	11
Typhosus, Paratyphosus, Cholera, etc., .....	5	3	4	5	7	8	6	3	6	3	2	1	53	87
Helminth ova,.....	20	6	27	30	39	26	15	21	22	15	11	8	240	255
Amœbæ of Dysentery, .....	9	5	8	15	20	15	10	11	12	7	9	7	128	179
Occult blood, .....	1	...	2	...	...	1	1	1	...	...	...	...	6	...
Tubercle bacillus,.....	1	...	3	...	2	2	1	...	...	...	1	10	63	67
Tissues for Section, .....	2	4	4	5	6	7	10	6	5	8	5	1	285	276
Sputa, .....	65	23	41	28	24	30	11	11	17	12	16	7		
Pus, .....	1	...	3	...	1	4	...	...	4	...	1	3	17	22
Urine, .....	12	5	11	19	11	10	10	12	6	12	2	3	113	86
Smear for Gonococcus, .....	26	12	12	17	15	13	9	9	8	7	16	7	151	124
Smear for B. lepræ, .....	4	3	..	...	9	7	3	1	5	1	2	2	37	23
Rat smears and spleens for B. pestis,.....	...	...	2	...	1	...	8	4	...	...	...	...	15	625
Blood, &c., for B. pestis, ...	...	...	...	...	...	...	6	...	...	...	...	...	6	9
Animals for Rabies, .....	1	...	...	...	...	2	5	2	1	1	2	...	14	20
Materials for medico-legal purposes,.....	...	3	7	...	...	...	7	8	8	...	...	...	33	43
Weil Felix Reaction for Typhus fever, .....	1	...	...	...	...	...	...	...	...	...	...	...	1	4
Agglutination Reaction for B. dysenteriae .....	1	...	...	2	2	2	2	3	...	...	1	...	13	29
Bacteriological Analyses of Water,.....	133	114	123	139	134	180	277	155	135	137	134	130	1,791	1,499
Bacteriological Examination of Milk, .....	8	6	13	16	9	15	23	16	19	25	20	20	190	108
Rideal Walker's Estimation of disinfectants .....	...	...	...	1	...	1	...	...	...	...	...	...	2	2
Autogenous vaccines prepared, .....	2	1	2	...	...	1	2	1	3	2	...	1	15	10
Freshly prepared vaccines tested for sterility, .....	22	8	8	29	28	18	26	4	12	24	16	24	219	52
Filter Candles sterilized for domestic filters, .....	31	26	28	23	28	28	28	30	35	37	28	30	352	320
Identification of Rat Fleas .....	...	...	...	...	...	...	...	16	15	9	21	15	76	...
Miscellaneous, .....	25	11	14	18	27	16	11	7	12	9	8	14	172	146
Total, .....	832	551	668	820	854	855	1,183	881	725	754	732	557	9,412	8,626

## APPENDIX B.

### ANALYST'S DEPARTMENT.

Report on the work of the Government Laboratory during the year 1929.

By Mr. E. R. Dovey, A.R.C.Sc., F.I.C., F.C.S

Government Analyst.

The number of analyses performed during the year was 3,710 as against 3,060 in 1928.

The following classification shows the nature of the work done:—

#### *Chemico-Legal Examinations.*

	1929	1928
Toxicological Examinations (including 37 stomachs) .....	46	59
Blood .....	10	11
Clothing for stains .....	1	0
Bombs and Explosives .....	0	2
Bullets .....	0	1
Articles for Fire Enquiries .....	3	0
Corrosive fluids .....	1	0
Carbolic acid .....	2	0
Spirit .....	1	0
Counterfeiting materials .....	7	14
Food .....	1	4
Food residues .....	1	0
Vomit .....	4	9
Medicines .....	12	11
Herbs .....	2	0
Opium .....	2	1
Tape .....	2	0
Other liquids .....	8	10
Powders .....	6	5
Crystals .....	0	1
Other examinations .....	1	3

*Dangerous Goods.*

	1929	1928
Fuel oil .....	16	15
Firecrackers .....	5	3
Liquids for flash point .....	1	0
Petrol .....	5	7
Kerosene .....	14	6
Potassium chlorate .....	0	2
Turpentine .....	0	4
Ships for inflammable vapour ....:	70	71

*Food and Drugs.*

Arrowroot .....	0	1
Beer .....	0	1
Brandy .....	0	3
Bread .....	27	82
Butter Fresh .....	21	27
Butter Tinned .....	8	5
Cake .....	0	1
Cheese .....	13	10
Chinese wine .....	0	1
Cocoa .....	0	5
Coffee .....	11	36
Confectionery .....	1	2
Draught ale .....	0	2
Flour .....	36	61
Jam .....	0	7
Lard .....	41	8
Lemonade .....	0	3
Lemon squash .....	0	3
Macaroni .....	0	1
Milk Fresh .....	62	70
,, Condensed .....	20	38
,, Skimmed .....	2	0
Molasses .....	5	2
Mustard .....	0	1
Pepper .....	0	31
Preserved plums .....	0	1
Sugar .....	36	58
Tea .....	27	35
Vinegar .....	1	6
Ghee .....	2	0
Bean curd .....	6	0
Sauce .....	1	0
Mushrooms .....	1	0
Curried fowl .....	1	0

*Waters.*

	1929	1928
Public Supplies .....	2269	1774
Distilled water .....	2	1
Wells and springs .....	90	3
River water .....	56	0
Nullah water .....	18	0
Seawater .....	0	3
Rainwater .....	0	2
Water from streams .....	8	0
Subsoil water .....	1	0
Water from catchment areas .....	1	0

*Building Materials.*

	1929	1928
Lime .....	9	16
Cement .....	2	2
Clay .....	1	3
Plaster .....	0	1
Sand .....	1	0

*Oils.*

	1929	1928
Anise Oil .....	12	21
Cassia Oil .....	31	72
Wood Oil .....	100	53
Tea seed Oil .....	16	7
Lard Oil .....	0	4
Peppermint Oil .....	0	1

*Pharmacy Ordinance.*

	1929	1928
Procaine .....	0	1
Ashocain .....	1	0
Patent Medicines .....	0	1
Chinese Medicines .....	1	4
Japanese Medicines .....	0	1
Morphine solutions .....	0	1
Pakling Balm .....	1	0
White Santal .....	1	0
Malarial pills .....	1	0
Asthma pills .....	1	0
Cough pills .....	1	0
Other drugs .....	1	1

*Chemicals.*

	1929	1928
Bleaching powder .....	8	1
Potassium nitrate .....	0	3
Ammonium sulphate .....	0	3
Alum .....	0	2
Nitric acid .....	0	3
Sulphuric acid .....	19	17
Sodium hydroxide .....	1	1

*Minerals and Metals.*

	1929	1928
Metals .....	178	79
Ores .....	119	68
Minerals .....	5	9
Coal .....	99	86
Clinker .....	1	0

*Miscellaneous.*

	1929	1928
Coal Tar Disinfectants .....	5	4
Lubricating oil .....	5	0
Light oil .....	1	0
Rangoon oil .....	1	0
Paraffin wax .....	6	0
Refractometers for calibration ...	3	1
Microscopes for examination .....	1	0
Soy .....	4	1
Book paint .....	1	0
Deposit from iron pipe .....	0	1
Knitted fabrics .....	0	5
Yarn cones .....	0	2
Paper .....	4	0
Compositions .....	0	1
Deposits from batteries .....	2	1
Urine .....	3	13
Transformer oils .....	0	1
Compound engine oil .....	0	1
Meal .....	1	0
Soil .....	0	4
Wrappings .....	0	2
Sewage effluents .....	13	6
Cigars .....	0	1
Deposit from pump .....	0	1
Oil test outfits .....	4	1
Deposit .....	0	1
Fish .....	0	1
Fire extinguisher .....	0	1

	1929	1928
Etching fluid .....	0	1
Peanuts .....	1	2
Liquids .....	8	3
Mineral tar .....	0	3
Dusting powder .....	0	1
Leather .....	0	1
Dressing .....	0	1
Solder .....	0	2
Yeast-vite .....	0	1
Poison .....	0	1
Unknown oil .....	1	0
Horse food .....	1	0
Sediment .....	1	0
Jointing material .....	1	0
Twenty-cent pieces .....	2	0
Silver dollars .....	1	0
Condenser tube .....	1	0
Steel tube .....	1	0
White earth .....	2	0
Dyes .....	4	0
Insecticide .....	1	0
Chinese herb .....	1	0
Switches .....	2	0
Copper cents .....	3	0
Glass flasks .....	1	0
Tar .....	1	0
Tar compound .....	1	0
Gun metal plug .....	1	0
Guano .....	4	0
Matches .....	1	0
Pitch .....	1	0
Bitumen .....	1	0
Stone .....	3	0
Yellow metal .....	1	0
Crude petroleum .....	1	0
Ointment .....	1	0
Pe Ho Oil .....	1	0
<hr/>		
Total .....	3,710	3,060
<hr/>		

#### TOXICOLOGICAL EXAMINATIONS.

Among the investigations carried out during the year were 46 cases of suspected human poisoning. In some of these there was no direct evidence of poison having been administered or taken: the post-mortem material was sent in in order that death from poison might be excluded.

The results were as follows:—

<i>Poison.</i>	<i>Number of Cases.</i>
Opium found .....	11
Lysol found .....	1
Animal toxins found .....	5
Alcohol and acetaldehyde found .....	6
Heroin found .....	1
Unknown alkaloid found .....	1
Gelsemium elegans found .....	1
No poison found .....	20
<i>Total</i> .....	<u>46</u>

Two packets of medicinal cachets were submitted for examination by the Police. A patient had taken an overdose and died. Analysis showed that each cachet contained 6.5 grains of Veronal.

In May a sample of infusion of tea was submitted. It was suspected that urine had been added to it. Tests for urea and uric acid gave absolutely negative results showing that the suspicions were unfounded.

A bottle of liquid was seized by the Police, in the possession of a man whom they suspected of using it for an unlawful purpose. The contents proved to be strong nitric acid containing some sulphuric acid as an impurity.

In August, the viscera from a young Chinese woman were received from the Kowloon mortuary. The woman was supposed to have committed suicide by taking some Chinese herbs. The alkaloid gelsemidine, the active principle of *Gelsemium elegans* was isolated from the stomach contents, from the walls of the stomach itself, and from the liver. The total quantity isolated was 1.09 Grains.

#### DANGEROUS GOODS.

Five samples of fire crackers were submitted by the Police to ascertain if they contained any prohibited ingredient. Analysis of the explosive showed them to conform with the Regulations.

The Clowes-Redwood apparatus for the detection of inflammable vapour was used on 70 steamers during the year. The apparatus has been re-designed and in its latest form has proved to be much more convenient and efficient.

16 samples of fuel oil were examined for the Naval Authorities to ascertain if they conformed with the Admiralty specifications.

FOOD AND DRUGS ORDINANCE.

The following Table gives the results of analysis of 258 samples of articles of food submitted by the Sanitary Department:—

Substance.	Number Examined.	Number found genuine.	Number found adulterated
Milk Fresh .....	60	59	1
Milk Tinned .....	12	12	0
Milk Condensed .....	7	7	0
Milk Skimmed .....	2	2	0
Bread .....	27	27	0
Flour .....	31	30	1
Sugar .....	36	36	0
Butter Fresh .....	21	21	0
Butter Tinned .....	8	8	0
Tea .....	27	27	0
Coffee .....	10	10	0
Cheese .....	13	13	0
Lard .....	3	3	0
Confectionery .....	1	1	0
<i>Total</i> .....	258	256	2

The work of examining food and drug samples had to be somewhat curtailed during the year owing to the greatly increased work on water supplies caused by the water shortage.

MINERALOGICAL ANALYSES.

The 257 samples of metals and ores examined during the year comprised the following:—

Metals	1929	1928	Ores.	1929	1928
Tin .....	174	77	Wolfram.....	94	27
Antimony .....	4	2	Manganese .....	6	20
			Bismuth.....	13	17
			Antimouy .....	5	1
			Molybdenum .....	1	0
			Lead .....	0	1
			Tin Dust .....	0	2
<i>Totals</i> .....	178	79	<i>Totals</i> .....	119	68

SAMPLES EXAMINED FOR THE IMPORTS & EXPORTS DEPT.

During the absence of Mr. Taylor on leave, the following were examined for the Imports and Exports Department:—

*Samples.*

Chinese Wine .....	3
Cocaine hydrochloride .....	1
Spirit of Wine .....	3
Red Pills .....	1
Unknown substance .....	1

WATER SUPPLIES.

Examinations were made each month of the water, both filtered and unfiltered, from the following supplies:—

Pokfulum.	Albany.	Shaukiwan.
Elliot.	Bowen Road	Chai Wan.
West Point.	Eastern.	Kowloon.

From October onward, monthly examinations of the water from Shing Mun were also made.

Weekly examinations have been made of the unfiltered and filtered water supply of the Dairy Farm Co. at Pokfulum, and free chlorine tests made on the Company's storage tank.

From 20 to 30 samples of tap water from all parts of the city have also been taken weekly for examination. The total number of water samples examined during the year was 2,269 as against 1,774 in 1928.

The water shortage during the year was the cause of a great deal of extra work being thrown on the staff. Many new wells were opened and spring supplies tapped, involving a large number of analyses. Samples of all supplies available to the public were brought in by the Sanitary Department, and in addition an order was made that any private individual could bring a water sample to the Laboratory and have it analysed free of charge.

Samples from many outside sources were examined, from the Canton River, from Foochow, from Manila, from Japan, etc. about 20 in all. 42 samples taken from the tanks on the Canton boats were tested also.

One of the staff proceeded by boat to Canton, taking samples at various points in the river, both up and down, to ascertain to what extent this could be utilised. The Acting Analyst together with the Government Bacteriologist made an examination of the water of the Lo Wu River near Sheung Shui, unfortunately finding this too saline for practical purposes.

In June, the Laboratory staff was made responsible for the chlorination of the emergency tanks which had been erected on the Praya, and for this work, 3 Inspectors from the Sanitary Department were attached to the Laboratory staff. A standard of 0.5 parts free chlorine per million was aimed at. Portable testing sets were made in the Laboratory and supplied to the Inspectors and an average of 150 tests made per day. That the chlorination was effective is shown by the fact that the daily tests made by the Government Bacteriologist showed, in every case, *B. coli* absent from 50 cc.

#### CRIMINAL WORK.

In January last, two pieces of cotton tape were submitted by the Police. These had been removed from a body at the Kowloon Mortuary. It was suspected that they had previously been used as part of a driving belt on a pulley in a barber's shop. Chemical examination revealed the presence of oily stains which tended to confirm these suspicions.

In the same month a cotton jacket was brought for an examination to be made of stains on the back. This had been worn by a man walking Shanghai Street who had been followed by two men. The latter had thrown a corrosive fluid over him. Chemical analysis showed the liquid present to be nitric acid.

The assistance of the Laboratory was sought in the investigation into the cause of the King Edward Hotel fire. Specimens of wax, wood, etc. were submitted for examination as to the relative inflammability of these materials. It was proved that the floor polish used did not render the woodwork more inflammable to any material extent.

In February, a considerable number of articles were received from an alleged counterfeiting plant. It was reported that all the articles submitted were such as would probably be used in the manufacture of spurious coins and the use of the individual articles and substances was described.

In December, a passport was submitted for the examination of certain erasures. The presence of the erasures was proved and an opinion given as to the nature of the writing there previously.

The toxicological investigations have already been referred to.

#### RESEARCH.

Work has been done during the year on the detection of seawater in cases of drowning. A number of cases have occurred in which samples of the stomach contents, of the blood or of fluid from the thorax have been submitted. The total chlorides

have been determined by Both Whitelock's and also by Smirk's method, but chief reliance has been placed on a method worked out in this Laboratory of determining admixture of seawater by means of the electrical conductivity. Osmotic requirements of the body necessitate the maintenance of the concentration of electrolytes within comparatively narrow limits and variations in most of the organic constituents of bodily fluids have no effect on the conductivity. The admixture of 5% of seawater with blood will give an increase in the conductivity figure of about 2,000 reciprocal megohms.

A modification of the ortho-tolidine method is being worked out for the determination of total chlorine in a single drop of blood. In cases of supposed drowning, where it is of great importance to know the relative concentrations of chlorine in the right and left heart, such a method would be invaluable.

A certain amount of work was also carried out on the determination of minute amounts of chlorine in acid for the batteries of submarines. Specifications for such acid require the chlorine percentage to be not greater than 0.0005%. Accurate determinations of such amounts are not easy without special apparatus and exceptionally pure reagents.

#### SAMPLING.

The following Table gives the amount of sampling of commercial products carried out by the Government sampler during the year.

The amount of Chinese ingot tin sampled during the year as will be seen below amounted to over 4,000 tons or nearly 14 tons per working day. This in itself means the sampling of an average of 280 ingots and the placing of the Government stamp on each, per day.

<i>Substance.</i>	<i>1929.</i>	<i>1928.</i>
Tin .....	4,119 tons.	1,965 tons.
Wolfram ore .....	364 ,,	42 ,,
Bismuth ore .....	2,185 lbs.	7,500 lbs.
Manganese ore .....	None.	470 tons.
Lead ore .....	,,	2,150 bags.
Solder .....	,,	39 cases.
Copper coins .....	51 tons.	None.
Portland cement ..	770 lbs.	,,
Wood Oil .....	465 tons.	414 tons.
Anise Oil .....	8,000 lbs.	15,120 lbs.
Cassia Oil .....	5,209 lbs.	43,330 lbs.
Tea seed Oil .....	80 tons.	None.
Lard .....	16,145 cases.	,,
Paraffin Wax .....	407 bags.	,,
Nitric Acid .....	None.	400 cases.

In addition to the above, the sampler took approximately 2,000 samples of water.

#### MISCELLANEOUS SERVICES.

In January the Laboratory staff carried out the fumigation of the Colonial Secretary's Office records with hydrocyanic acid gas. Three rooms filled with books and documents were treated for three days with a concentration of 30 grammes of gas per 1,000 cubic feet. The result was reported as being very satisfactory.

In December, the records at the District Office, Tai Po, were similarly treated, at the request of the District Officer.

#### REVENUE.

The fees paid into the Treasury during the year amounted to \$24,974.00 as against \$15,562.00 in 1928. The value of the work done as determined from the Tariff of Fees (Government Notification No. 439 of 1918) was \$51,659.00 as against \$46,001.00 in 1928.

#### STAFF.

I went on leave on February 15th and resumed duty on November 7th. Mr. V. C. Branson acted during my absence.

Mr. Branson went on leave on the 23rd November.

Mr. Kurrik was taken on the staff as a temporary assistant in January.

Mr. Arthur Jackson was appointed in October to take the place of Dr. Lubatti, and commenced his duties on the 21st November.

## APPENDIX C.

Table I.

 MENTAL HOSPITAL.  
 NATIONALITY AND SEX OF PATIENTS TREATED IN 1929.

Nationality	Remaining at end of 1928.		Admitted.		Total Number Treated.		Discharged.		Died.		Remaining at end of 1929.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Europeans .....	5	3	19	3	24	6	17	3	2	—	5	3
Japanese .....	—	1	—	—	—	1	—	1	—	—	—	—
Indians .....	—	—	4	—	4	—	2	—	2	—	—	—
Chinese .....	22	5	147	79	169	84	142	73	12	4	15	7
West Indians .....	1	—	—	—	1	—	1	—	—	—	—	—
Negro .....	—	1	—	—	—	—	1	—	—	—	—	1
Total .....	28	10	170	82	198	92	162	77	16	4	20	11

## MENTAL HOSPITAL.

Nationality and Sex of Patients treated in 1929.

Diseases.	Remaining in Hospital at end of 1928.	Admitted during 1929.	Total cases treated.	Apparently cured.	Discharged.			
					Relieved.	To Canton Mental Hospital.	Died.	Remaining in Hospital at end of 1929.
<b>Errors of Development :—</b>								
Imbecility Congenital .....	—	5	5	—	2	3	—	—
Imbecility Moral .....	—	1	1	—	—	1	—	—
Feeble mindedness .....	3	15	18	—	9	7	—	2
<b>Disorders of function :—</b>								
Mania Acute .....	2	32	34	8	9	10	2A	5
,, Intermittent .....	1	10	11	1	—	9	—	1
,, Chronic .....	—	6	6	—	2	2	1B	1
,, Associated with :—								
Epilepsy.....	—	1	1	—	1	—	—	—
Pregnancy .....	—	1	1	—	1	—	—	—
Melancholia Acute .....	—	9	9	1	4	4	—	—
,, Intermittent .....	—	1	1	—	1	—	—	—
,, Chronic .....	2	1	3	—	1	—	—	2
,, Agitated .....	1	1	2	1	1	—	—	—
,, Associated with Old age .....	—	1	1	—	1	—	—	—
Maniacal Depressive Insanity ...	1	—	1	—	—	—	—	1
Circular Insanity .....	1	—	1	—	1	—	—	—
Alternating Insanity .....	1	—	1	1	—	—	—	—
Stupor :—								
Anergic .....	1	1	2	—	—	1	—	1
Delusional Insanity :—								
Acute .....	—	5	5	1	2	1	—	1
Chronic .....	4	6	10	—	2	2	1C	5
Insanity of Infective Toxic, and other general Conditions .....	—	—	—	—	—	—	—	—
Acute Delirious .....	—	1	1	—	—	—	1D	—
Insanity Associated with Acute infective disease .....	—	—	—	—	—	—	—	—
Febrile Insanity .....	—	8	8	1	1	1	5E	—
Confusional .....	—	7	7	—	3	1	2F	1
Syphilitic .....	—	2	2	—	—	2	—	—
General Paralysis of the Insane ..	—	8	8	—	4	1	2G	1
Dementia from Local Cerebral Syphilis .....	1	—	1	—	1	—	—	—
Insanity due to Alcohol :—								
Acute .....	—	2	2	2	—	—	—	—
Delirium Tremens .....	—	4	4	3	—	—	1H	—
Dementia Praecox .....	3	22	25	—	9	12	—	4
,, Primary .....	9	19	28	—	6	19	—	3
,, Secondary .....	7	12	19	—	4	12	1I	2
,, Senile .....	—	2	2	—	1	1	—	—
,, from Epilepsy .....	1	5	6	—	1	4	1K	—
Observation .....	—	64	64	48	12	—	3L	1
Total : 1929.....	38	252	290	67	79	93	20	31
Total :—1928.....	48	250	298	83	108	49	20	38

A. 1 Exhaustion and Cardiac Failure.  
    1 Pneumonia  
B. Tertiary Syphilis.  
C. General Debility.  
D. General Debility.  
E. 1 Typhoid Fever B.  
    1 Cerebral Malaria.  
    1 Typhoid Fever.

E. 1 Pneumonia.  
    1 Lobar Pneumonia.  
F. 1 Acute Nephritis.  
    1 Pulmonary Tuberculosis.  
G. 1 Tertiary Syphilis Gumma of Sternum  
        and ribs.  
H. 1 Acute Alcoholism and Delirium  
        tremens.

I. 1 Broncho-Pneumonia.  
K. 1 Status Epilepticus.  
L. 1 Acute Alcoholic Poisoning and Cardiac  
        Failure.  
    1 Pulmonary Tuberculosis.  
    1 Status Epilepticus.

## Return of Diseases and Deaths (In-Patients) for the Year 1929.

## APPENDIX D.

## APPENDIX E.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<b>I.—Epidemic, Endemic, and Infectious Diseases.</b>										
Enteric Group :—										
(a) Typhoid Fever .....	5	62	12	67	3	...	45	13	45	2
(b) Paratyphoid A. ....	...	2	...	2	...	...	...	...	...	...
Relapsing Fever.....	...	1	...	1	...	...	...	...	...	...
Malaria :—										
(a) Tertian.....	4	520	1	524	6	32	943	240	975	33
(b) Quartan .....	...	5	...	5	...	3	38	7	41	...
(c) Aestivo-autumnal .....	7	94	7	101	4	...	22	7	22	...
(d) Cachexia .....	2	32	4	34	2	...	13	...	13	...
(e) Blackwater .....	...	2	2	2	...	...	...	...	...	...
Smallpox.....	5	22	2	27	1	25	235	94	260	10
Measles .....	...	12	...	12	...	...	16	...	16	...
Whooping Cough .....	...	2	...	2	...	...	...	...	...	...
Diphtheria .....	2	64	26	66	1	...	50	32	50	1
Influenza.....	3	278	...	281	...	6	230	29	236	1
Mumps .....	...	28	...	28	...	...	6	...	6	...
Dysentery :—										
(a) Amœbic .....	1	45	...	46	2	11	296	53	307	16
(b) Bacillary .....	1	32	3	33	...	1	5	3	6	...
(c) Undefined or due to other causes .....	...	5	...	5	...	1	58	19	59	2
Leprosy .....	...	15	3	15	1	...	5	1	5	...
Erysipelas .....	...	4	1	4	...	...	7	...	7	...
Acute Poliomyelitis .....	...	1	...	1	1	...	...	...	...	...
Encephalitis Lethargica .....	...	1	1	1	...	...	...	...	...	...
Epidemic Cerebro-spinal Fever .....	...	4	3	4	...	...	7	7	7	...
Other Epidemic Diseases :—										
(a) Rubeola (German Measles) .....	...	1	...	1	...	...	...	...	...	...
(b) Varicella (Chicken-pox).....	...	25	...	25	1	...	...	...	...	...
(c) Dengue.....	...	13	...	13	...	...	...	...	...	...
Rabies .....	...	1	1	1	...	...	...	...	...	...
Tetanus .....	...	8	5	8	...	...	38	31	38	...
Mycosis .....	1	...	...	1	...	...	...	...	...	...
<i>Carried forward.....</i>	31	1,279	71	1,310	22	79	2,014	536	2,093	65

Return of Diseases and Deaths (In-Patients) for the Year 1929.

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		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward .....</i>	31	1,279	71	1,310	22	79	2,014	536	2,093	65
<i>I.—Epidemic, Endemic, and Infectious Diseases,—Continued.</i>										
Tuberculosis Pulmonary and Laryngeal .....	6	171	47	177	19	57	1,828	937	1,885	85
Tuberculosis of the Meninges or Central Nervous System .....	...	14	14	14	...	...	132	85	132	...
Tuberculosis of the Intestines or Peritoneum .....	1	21	6	22	1	...	2	2	2	...
Tuberculosis of the Vertebral Column	1	2	...	3	...	...	1	...	1	...
Tuberculosis of Bones and Joints.....	9	14	...	23	2	1	25	12	26	...
Tuberculosis of other organs :—										
(a) Skin or Subcutaneous Tissue (Lupus) .....	...	2	...	2	...	...	14	5	14	...
(b) Bones .....	...	2	...	2	...	...	...	...	...	...
(c) Lymphatic System .....	2	34	...	36	2	1	41	1	42	2
(d) Genito-urinary.....	...	2	...	2	...	...	...	...	...	...
(e) Other organs .....	...	6	...	6	...	...	...	...	...	...
Tuberculosis disseminated :—										
(a) Acute .....	...	5	4	5	...	...	61	...	61	...
(b) Chronic.....	...	9	7	9	2	...	105	37	105	12
Syphilis :—										
(a) Primary .....	...	61	...	61	2	...	2	...	2	...
(b) Secondary.....	17	28	...	45	1	...	4	...	4	1
(c) Tertiary .....	2	31	1	33	3	22	176	35	198	35
(d) Hereditary .....	1	5	...	6	...	...	2	1	2	...
(e) Period not indicated .....	...	8	...	8	1	...	...	...	...	...
Soft Chancre .....	...	21	...	21	1	...	...	...	...	...
Gonorrhœa and its complications .....	10	105	...	115	8	...	3	...	3	...
Gonorrhœal Ophthalmia .....	...	3	...	3	...	...	...	...	...	...
Gonorrhœal Arthritis .....	...	13	...	13	2	...	4	...	4	2
Septicæmia .....	...	2	...	2	...	2	76	24	78	5
Other Infectious Diseases :—										
Filariasis .....	...	1	...	1	...	...	...	...	...	...
<i>Carried forward.....</i>	80	1,839	150	1,919	66	162	4,490	1,675	4,652	207

Return of Diseases and Deaths (In-Patients) for the Year 1929.

**APPENDIX D.**

**APPENDIX E.**

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	80	1,839	150	1,919	66	162	4,490	1,675	4,652	207
<b>II.—General Diseases not mentioned above.</b>										
Cancer or other malignant Tumours of the Buccal Cavity.....	2	39	3	41	4	...	...	...	...	...
Cancer or other malignant Tumours of the Stomach or Liver .....	...	10	3	10	...	...	37	9	37	...
Cancer or other malignant Tumours of the Peritoneum, Intestines, Rectum .....	...	6	3	6	...	...	1	...	1	...
Cancer or other malignant Tumours of the Female Genital Organs ...	1	5	1	6	...	...	8	5	8	...
Cancer or other malignant Tumours of the Breast .....	1	9	...	10	...	...	3	1	3	...
Cancer or other malignant Tumours of the Skin .....	...	13	...	13	...	...	...	...	...	...
Cancer or other malignant Tumours of Organs not specified .....	...	2	1	2	...	...	...	...	...	...
Tumours non-Malignant .....	1	83	...	84	5	...	6	1	6	2
Aeute Rheumatism.....	...	7	...	7	...	...	2	...	2	...
Chronic Rheumatism .....	1	24	...	25	...	3	81	1	84	11
Pellagra .....	...	1	...	1	...	...	...	...	...	...
Beri-Beri .....	2	54	1	56	2	81	1,205	411	1,286	81
Diabetes (not including Insipidus) ...	...	5	1	5	...	...	...	...	...	...
<b>Anæmia :—</b>										
(a) Pernicious .....	1	1	...	2	...	...	56	...	56	...
(b) Other Anæmias .....	...	29	...	29	...	...	2	...	2	...
<b>Diseases of the Thyroid Gland :—</b>										
(a) Exophthalmie Goitre .....	1	6	1	7	1	...	...	...	...	...
(b) Other diseases of the Thyroid Gland, Myxœdema.....	...	2	...	2	...	...	...	...	...	...
Diseases of the Spleen .....	...	8	...	8	...	...	...	...	...	...
Leukæmia .....	...	3	1	3	1	...	...	...	...	...
Aleoholism .....	2	28	2	30	...	...	...	...	...	...
Chronic poisoning by mineral sub-stanees (lead, mercurry, &c.) .....	...	1	...	1	...	...	...	...	...	...
Chronic poisoning by organic sub-stanees (Morphia, Cocaine, &c.)...	3	59	1	62	2	7	93	26	100	16
<b>Other General Diseases :—</b>										
Auto-intoxication .....	...	4	...	4	...	...	...	...	...	...
Diabetes Insipidus .....	...	3	...	3	1	...	...	...	...	...
<i>Carried forward.....</i>	95	2,241	168	2,336	82	253	5,984	2,129	6,237	317

Return of Diseases and Deaths (In-Patients) for the Year 1929.

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	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	95	2,241	168	2,336	82	253	5,984	2,129	6,237	317
III.—Affections of the Nervous System and Organs of the Senses.										
Encephalitis (not including Encephalitis Lethargica) .....	...	2	...	2	...	...	1	...	1	...
Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis) .....	...	4	4	4	...	...	8	6	8	...
Locomotor Ataxia .....	...	3	...	3	...	1	5	...	6	1
Other affections of the Spinal Cord ...	2	5	1	7	1	...	3	...	3	1
Apoplexy :—										
(a) Haemorrhage .....	..	9	8	9	...	...	135	75	135	11
(b) Embolism.....	..	1	1	1	...	...	28	7	28	...
(c) Thrombosis .....	..	7	2	7	...	...	25	6	25	...
Paralysis :—										
(a) Hemiplegia .....	1	10	...	11	...	4	89	10	93	3
(b) Other Paryses .....	..	5	...	5	3	...	2	1	2	1
General Paralysis of the Insane .....	..	2	...	2	1	...	...	...	...	...
Other forms of Mental Alienation.....	..	18	...	18	1	...	14	...	14	...
Epilepsy .....	..	22	3	22	4	...	16	2	16	1
Eclampsia, Convulsions (non-puer-peral) 5 years or over .....	..	...	...	...	...	...	5	...	5	...
Infantile Convulsions.....	..	1	...	1	...	...	...	...	...	...
Hysteria .....	3	.6	...	9	1	...	2	...	2	...
Neuritis .....	1	75	...	76	...	1	7	...	8	1
Neurasthenia .....	1	30	...	31	1	...	...	...	...	...
Cerebral Softening.....	..	4	...	4	...	...	...	...	...	...
Other affections of the Nervous System such as Paralysis Agitans..	..	12	...	12	3	...	1	...	1	...
Affections of the Organs of Vision :—										
(a) Diseases of the Eye .....	..	29	...	29	4	11	387	...	398	15
(b) Conjunctivitis .....	..	41	...	41	...	2	18	...	20	1
(c) Trachoma.....	1	14	...	15	...	...	10	...	10	...
(d) Tumours of the Eye .....	..	...	...	...	...	...	2	...	2	...
(e) Other affections of the Eye...	1	21	...	22	...	...	4	...	4	...
Affections of the Ear or Mastoid Sinus..	2	45	...	47	...	2	15	1	17	...
<i>Carried forward.....</i>	107	2,617	187	2,714	101	274	6,761	2,237	7,035	352

## Return of Diseases and Deaths (In-Patients) for the Year 1929.

## APPENDIX D.

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Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	107	2,617	187	2,714	101	274	6,761	2,237	7,035	352
<b>IV.—Affections of the Circulatory System.</b>										
Pericarditis .....	...	4	1	4	...	...	36	5	36	...
Acute Endocarditis or Myocarditis ...	...	15	4	15	...	7	325	93	332	21
Angina Pectoris.....	...	1	...	1	...	...	...	...	...	...
Other Diseases of the Heart :—										
(a) Valvular :—										
Mitral .....	8	45	6	53	1	19	305	136	324	22
Aortic .....	1	11	4	12	...	...	...	...	...	...
(b) Myocarditis .....	2	34	18	36	1	...	161	27	161	13
Diseases of the Arteries :—										
(a) Aneurism .....	...	11	5	11	...	...	1	...	1	...
(b) Arterio-Sclerosis .....	...	7	...	7	...	...	...	...	...	...
Embolism or Thrombosis (non-cerebral)	...	1	...	1	...	...	...	...	...	...
Diseases of the Veins :—										
Haemorrhoids .....	2	37	...	39	3	1	13	...	14	...
Varicose Veins .....	2	10	...	12	...	...	...	...	...	...
Phlebitis .....	...	3	...	3	1	...	...	...	...	...
Diseases of the Lymphatic System:—										
Lymphangitis .....	...	9	...	9	...	...	...	...	...	...
Lymphadenitis, Bubo (non-specific) .....	1	94	...	95	7	...	12	...	12	...
Hæmorrhage of undetermined cause...	...	2	...	2	...	...	...	...	...	...
Other affections of the Circulatory System .....	...	9	...	9	...	...	1	...	1	...
<b>V.—Affections of the Respiratory System.</b>										
Diseases of the Nasal Passages :—										
Adenoids .....	1	2	...	3	...	...	4	...	4	...
Polypus .....	...	10	...	10	...	...	2	...	2	...
Rhinitis .....	...	4	...	4	...	...	...	...	...	...
Coryza.....	...	18	...	18	...	...	...	...	...	...
Affections of the Larynx :—										
Laryngitis .....	...	6	...	6	...	...	5	...	5	...
<i>Carried forward.....</i>	124	2,940	225	3,064	114	301	7,626	2,498	7,927	408

## Return of Diseases and Deaths (In-Patients) for the Year 1929.

## APPENDIX D.

## APPENDIX E.

Diseases.	GOVERNMENT HOSPITALS.						CHINESE HOSPITALS.					
	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.		
		Admis-sions.	Deaths.				Admis-sions.	Deaths.				
<i>Brought forward.....</i>	124	2,940	225	3,064	114	301	7,626	2,498	7,927	408		
<i>V.—Affections of the Respiratory System,—Continued.</i>												
Bronchitis :—												
(a) Acute .....	...	155	1	155	4	16	700	123	716	27		
(b) Chronic.....	3	42	3	45	...	50	626	306	676	39		
Broncho-Pneumonia .....	4	73	37	77	2	32	1,080	687	1,112	40		
Pneumonia :—												
(a) Lobar .....	4	73	20	77	2	...	41	35	41	...		
(b) Unclassified .....	...	2	...	2	...	...	...	...	...	...		
Pleurisy, Empyema .....	3	35	3	38	2	...	36	7	36	...		
Gangrene of the Lungs.....	...	1	1	1	...	...	...	...	...	...		
Asthma .....	1	79	...	80	8	...	134	...	134	12		
Pulmonary Emphysema .....	...	8	...	8	...	...	...	...	...	...		
<i>VI.—Diseases of the Digestive System.</i>												
Diseases of Teeth or Gums—Caries,												
Pyorrhœa, &c. .....	3	87	...	90	2	...	...	...	...	...		
Other affections of the Mouth:—												
Stomatitis .....	...	5	...	5	...	...	...	...	...	...		
Glossitis, &c. .....	...	4	...	4	...	...	...	...	...	...		
Affections of the Pharynx or Tonsils:—												
Tonsillitis .....	1	122	1	123	2	...	30	...	30	...		
Pharyngitis .....	...	24	...	24	...	...	...	...	...	...		
Affections of the Oesophagus .....	...	16	...	16	...	...	...	...	...	...		
Ulcer of the Stomach .....	...	12	1	12	1	...	21	2	21	...		
Ulcer of the Duodenum.....	1	23	2	24	3	...	3	...	3	...		
Other affections of the Stomach :—												
Gastritis .....	...	50	...	50	...	1	176	...	177	1		
Dyspepsia, &c. .....	...	103	...	103	1	2	23	...	25	...		
Diarrhoea and Enteritis :—												
Under two years .....	2	49	5	51	...	8	476	367	484	13		
Diarrhoea and Enteritis :—												
Two years and over .....	...	65	3	65	1	43	673	257	716	31		
Colitis .....	...	16	...	16	...	...	3	...	3	...		
Ankylostomiasis.....	2	16	...	18	3	...	4	...	4	...		
<i>Carried forward.....</i>	148	4,000	302	4,148	145	453	11,652	4,282	12,105	571		

## Return of Diseases and Deaths (In-Patients) for the Year 1929.

## APPENDIX D.

## APPENDIX E.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1929.	Remaining in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1929.
		Admissions.	Deaths.				Admissions.	Deaths.		
<i>Brought forward.....</i>	148	4,000	302	4,148	145	453	11,652	4,282	12,105	571
<b>VI.—Diseases of the Digestive System,—Continued.</b>										
Diseases due to Intestinal Parasites:—										
(a) Cestoda (Taenia) .....	...	4	...	4	...	...	3	...	3	...
(b) Trematoda (Flukes) .....	...	2	1	2	...	...	...	...	...	...
(c) Nematoda (other than Ankylostoma) :—										
Ascaris .....	...	23	...	23	2	...	7	...	7	...
(d) Other parasites .....	...	1	...	1	...	...	...	...	...	...
Appendicitis .....	3	73	3	76	3	...	65	5	65	...
Hernia.....	1	29	2	30	1	2	18	...	20	...
Affections of the Anus, Fistula, &c.	...	48	...	48	6	...	14	...	14	...
Other affections of the Intestines :—										
Enteroptosis .....	2	2	...	4	...	...	7	4	7	...
Constipation .....	...	56	...	56	1	1	65	...	66	...
Cirrhosis of the Liver :—										
(a) Alcoholic .....	1	4	1	5	...	15	221	46	236	6
(b) Other forms .....	...	11	4	11	1	...	2	2	2	...
Biliary Calculus .....	1	13	1	14	...	...	...	...	...	...
Other affections of the Liver :—										
Abscess .....	...	2	...	2	...	...	25	2	25	...
Hepatitis.....	...	7	...	7	1	...	...	...	...	...
Cholecystitis .....	...	11	...	11	1	...	9	4	9	...
Jaundice .....	...	15	...	15	1	...	...	...	...	...
Diseases of the Pancreas .....	...	1	...	1	...	...	...	...	...	...
Peritonitis (of unknown cause).....	...	3	1	3	1	...	104	14	104	...
Other affections of the Digestive System .....	...	21	1	21	...	...	...	...	...	...
<b>VII.—Diseases of the Genito-urinary System (non-Venereal).</b>										
Acute Nephritis .....	2	6	...	8	...	21	383	42	404	13
Chronic Nephritis .....	6	52	15	58	8	51	769	156	820	36
Chyluria .....	...	3	1	3	...	...	1	...	1	...
Other affections of the Kidneys, Pyelitis, &c. .....	...	10	1	10	1	...	2	2	2	...
Urinary Calculus .....	2	33	...	35	1	...	9	...	9	...
<i>Carried forward.....</i>	166	4,430	333	4,596	173	543	13,356	4,559	13,899	626

**Return of Diseases and Deaths (In-Patients) for the Year 1929.**

## APPENDIX D.

## APPENDIX E.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1929.	Remaining in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1929.
		Admis- sions.	Deaths.				Admis- sions.	Deaths.		
<i>Brought forward.....</i>	166	4,930	333	4,596	173	543	13,356	4,559	13,899	626
<b>VII.—Diseases of the Genito-urinary System (non-Venereal),—Continued.</b>										
Diseases of the Bladder :—										
Cystitis .....	...	19	...	19	...	1	6	...	7	...
Diseases of the Urethra :—										
(a) Stricture .....	3	23	...	26	...	2	13	...	15	...
(b) Other .....	2	17	...	19	...	...	...	...	...	...
Diseases of the Prostate :—										
Hypertrophy .....	...	5	1	5	...	...	...	...	...	...
Prostatitis .....	...	...	...	...	...	...	...	...	...	...
Diseases (non-Venereal) of the Genital Organs of Man :—										
Epididymitis .....	2	10	...	12	...	...	4	...	4	...
Orchitis .....	...	19	...	19	...	1	11	...	12	1
Hydrocele .....	...	11	...	11	...	...	1	...	1	...
Ulcer of Penis .....	...	27	...	27	...	...	3	1	3	...
Phimosis .....	...	15	...	15	...	...	...	...	...	...
Cysts or other non-malignant Tumours of the Ovaries.....	2	16	...	18	...	...	3	...	3	...
Salpingitis .....	...	14	...	14	1	...	...	...	...	...
Abscess of the Pelvis.....	1	23	...	24	...	1	6	1	7	2
Uterine Tumours (non-malignant) ...	1	9	...	10	...	...	2	...	2	...
Uterine Haemorrhage (non-puerperal)	...	1	...	1	...	...	4	2	4	...
Metritis .....	...	9	...	9	1	...	3	...	3	...
Other affections of the Female Genital Organs :—										
Displacements of Uterus .....	3	34	...	37	2	...	9	...	9	...
Amenorrhoea .....	...	3	...	3	...	...	64	...	64	...
Dysmenorrhoea .....	...	8	...	8	...	...	83	...	83	...
Leucorrhoea.....	...	26	...	26	2	...	87	...	87	...
Diseases of the Breast (non-puerperal):—										
Mastitis .....	...	2	...	2	...	...	5	...	5	1
Abscess of Breast .....	2	1	...	3	...	...	7	...	7	...
<i>Carried forward.....</i>	182	4,722	334	4,904	179	548	13,667	4,563	14,215	630

Return of Diseases and Deaths (In-Patients) for the Year 1929.

## APPENDIX D

## APPENDIX E.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1929.	Remain-ing in Hospital at end of 1928.	Yearly Total.		Total Cases treated.	Remain-ing in Hospital at end of 1929.
	Admis-sions.	Deaths.				Admis-sions.	Deaths.			
<i>Brought forward.....</i>	182	4,722	334	4,904	179	548	13,667	4,563	14,215	630
<b>VIII.—Puerperal State.</b>										
Normal Labour .....	40	877	...	917	7	48	4,818	...	4,866	63
Accidents of Pregnancy :—										
(a) Abortion .....	2	28	...	30	...	...	51	...	51	...
(b) Ectopic Gestation .....	...	10	1	10	...	...	3	2	3	...
(c) Other accidents of Pregnancy .....	...	8	7	8	...	...	...	...	...	...
Puerperal Haemorrhage .....	...	2	...	2	...	...	...	...	...	...
Other accidents of Parturition .....	...	3	...	3	...	...	...	...	...	...
Puerperal Septicæmia .....	...	3	...	3	...	...	3	3	3	...
Phlegmasia Dolens.....	...	1	...	1	...	...	4	1	4	...
Puerperal Eclampsia .....	...	1	...	1	...	...	...	...	...	...
Puerperal affections of the Breast ....	...	6	...	6	...	...	...	...	...	...
<b>IX.—Affections of the Skin and Cellular Tissues.</b>										
Gangrene .....	...	6	2	6	...	...	5	2	5	...
Boil .....	...	48	...	48	3	...	...	...	...	...
Carbuncle .....	3	71	3	74	2	21	232	2	253	19
Abscess .....	...	218	4	218	7	..	3	...	3	...
Cellulitis .....	8	181	4	189	7	50	825	6	875	32
Tinea .....	...	27	...	27	...	...	...	...	...	...
Scabies .....	1	17	...	18	...	1	110	...	111	...
Other Diseases of the Skin :—										
Erythema .....	...	6	...	6	...	...	...	...	...	...
Urticaria .....	...	8	...	8	...	...	12	...	12	...
Eczema .....	1	38	...	39	...	...	...	...	...	...
Herpes.....	...	2	...	2	...	...	...	...	...	...
Psoriasis .....	...	3	...	3	...	...	...	...	...	...
Elephantiasis .....	1	3	...	4	...	...	...	...	...	...
Cutaneous Leishmaniasis .....	...	1	...	1	...	...	...	...	...	...
Ulcer .....	...	10	...	10	...	...	...	...	...	...
<i>Carried forward.....</i>	238	6,300	355	6,538	205	668	19,733	4,579	20,401	744

**Return of Diseases and Deaths (In-Patients) for the Year 1929.**

## APPENDIX D.

## APPENDIX E.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1929.	Remaining in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1929.
	Admissions.	Deaths.				Admissions.	Deaths.			
Brought forward.....	238	6,300	355	6,538	205	668	19,733	4,579	20,401	744
X.—Diseases of Bones and Organs of Locomotion (other than Tuberculous).										
Diseases of Bones :—										
Osteitis .....	...	37	...	37	2	6	76	...	82	...
Diseases of Joints :—										
Arthritis .....	3	35	...	38	4	5	77	...	82	...
Synovitis .....	1	19	...	20	...	...	...	...	...	...
Other Diseases of Bones or Organs of Locomotion.....	1	12	...	13	...	..	...	...	...	...
XI.—Malformations.										
Malformations :—										
Hydrocephalus .....	...	3	2	3	...	...	...	...	...	...
Hypospadias .....	1	2	...	3	...	...	...	...	...	...
Spina Bifida, &c. ....	...	24	1	24	...	...	...	...	...	...
Cleft Palate and Hare lip .....	...	2	...	2	...	...	...	...	...	...
Double Undescended testicle.....	...	1	...	1	...	...	...	...	...	...
XII.—Diseases of Infancy.										
Congenital Debility .....	...	15	9	15	...	...	113	33	113	...
Premature Birth.....	...	1	1.	1	...	...	102	92	102	...
Other affections of Infancy .....	...	1	...	1	1	...	...	...	...	...
XIII.—Affections of Old Age.										
Senility :—										
Senile Dementia.....	...	4	1	4	...	27	360	102	387	27
XIV.—Affections produced by External Causes.										
Suicide by Poisoning.....	...	42	3	42	...	...	21	7	21	...
Corrosive Poisoning (intentional).....	...	13	4	13	...	...	...	...	...	...
Suicide by Hanging or Strangulation.	...	1	...	1	...	...	...	...	...	..
Suicide by Drowning.....	...	45	...	45	...	...	16	1	16	...
Suicide by cutting or stabbing Instruments .....	...	1	...	1	...	...	...	...	...	...
Carried forward.....	244	6,558	376	6,802	212	706	20,498	4,814	21,204	771

## Return of Diseases and Deaths (In-Patients) for the Year 1929.

## APPENDIX D.

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Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1928.	Yearly Total.	Total Cases Treated.	Remaining in Hospital at end of 1929.	Remaining in Hospital at end of 1928.	Yearly Total.	Total Cases Treated.	Remaining in Hospital at end of 1929.		
	Admis-sions.	Deaths.			Admis-sions.	Deaths.				
<i>Brought forward.....</i>	244	6,558	376	6,802	212	706	20,498	4,814	21,204	771
<b>XIV.—Affections produced by External Causes,—Continued.</b>										
Other Suicides .....	...	9	1	9	...	...	...	...	...	...
Food Poisoning .....	...	7	1	7	...	...	4	...	4	...
Attacks of poisonous animals :—										
Snake Bite .....	...	1	...	1	...	...	1	...	1	...
Inseet Bite .....	...	1	...	1	...	...	...	...	...	...
Burns (by Fire) .....	2	28	5	30	3	1	13	2	14	...
Burns (other than by Fire) .....	3	56	3	59	...	2	44	1	46	1
Suffocation (accidental).....	2	...	...	2	...	...	...	...	...	...
Drowning (accidental) .....	...	5	...	5	...	...	7	...	7	...
Wounds (by Firearms, war excepted)....	...	42	5	42	5	1	17	...	18	...
Wounds (by cutting or stabbing Instruments) .....	13	153	4	166	3	9	149	1	158	21
Wounds (by Fall) .....	17	111	10	128	...	...	80	11	80	2
Wounds (in Mines or Quarries) .....	...	3	...	3	1	...	...	...	...	...
Wounds (by Machinery) .....	...	45	1	45	2	2	12	...	14	1
Wounds (crushing, e.g. railway accidents, &c.) .....	14	108	8	122	3	...	...	...	...	...
Injuries inflicted by Animals, Bites, Kicks, &c. ....	...	8	...	8	...	...	2	...	2	...
Wounds inflicted on Active Service...	...	...	...	...	...	...	13	...	13	13
Over fatigue .....	...	1	...	1	...	...	...	...	...	...
Hunger or Thirst .....	...	...	...	...	...	...	11	...	11	...
Exposure to Heat :—										
Heatstroke .....	...	...	...	...	...	...	1	...	1	...
Sun-stroke .....	...	...	...	...	...	...	17	...	17	...
Murder by other means .....	...	...	...	...	...	...	1	1	1	...
Dislocation .....	1	14	...	15	...	...	13	...	13	...
Sprain .....	...	55	...	55	1	19	343	...	362	23
Fraeture .....	13	232	37	245	19	12	322	...	334	9
Other external Injuries .....	...	382	24	382	2	...	5	...	5	...
<i>Carried forward.....</i>	309	7,819	475	8,128	251	752	21,553	4,830	22,305	841

## Return of Diseases and Deaths (In-Patients) for the Year 1929.

## APPENDIX D.

## APPENDIX E.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1929.	Remaining in Hospital at end of 1928.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1929.
		Admis- sions.	Deaths.				Admis- sions.	Deaths.		
<i>Brought forward.....</i>	309	7,819	475	8,128	251	752	21,553	4,830	22,305	841
<b>XV.—Ill-Defined Diseases.</b>										
Diseases not already specified or ill-defined :—										
Pyrexia of Unknown Origin...	...	2	...	2	...	...	...	...	...	...
Ascites .....	...	19	1	19	1	...	...	...	...	...
Asthenia .....	...	91	..	91	1	...	...	...	...	...
Hyperpyrexia .....	2	60	...	62	2	...	...	...	...	...
Malingering .....	...	9	...	9	...	...	...	...	...	...
Observation .....	6	103	...	109	1	...	...	...	...	...
In Attendance .....	...	9	...	9	...	...	...	...	...	...
<b>TOTAL.....</b>	<b>317</b>	<b>8,112</b>	<b>476</b>	<b>8,429</b>	<b>256</b>	<b>752</b>	<b>21,553</b>	<b>4,830</b>	<b>22,305</b>	<b>841</b>

APPENDIX F.

Mortuaries—Return of Diseases for the year 1929.

Diseases.	Male.	Female.
<i>I.—Epidemic, Endemic, and Infectious Diseases.</i>		
Enteric Group:—		
(a) Typhoid Fever .....	4	2
Malaria:—		
(a) Aestivo-autumnal .....	24	12
Smallpox .....	369	347
Influenza .....	...	1
Dysentery:—		
(a) Amœbic .....	1	1
(b) Bacillary .....	1	1
Plague:—		
(a) Bubonic .....	...	1
Encephalitis .....	5	6
Tetanus.....	1	...
Tuberculosis Pulmonary and Laryngeal	569	663
Tuberculosis of the Meninges or Central Nervous System .....	3	3
Tuberculosis of the Intestines or Peritoneum .....	27	33
Tuberculosis of the Vertebral Column ...	...	1
Tuberculosis of other organs :—		
(a) Lymphatic System .....	5	5
(b) Genito-urinary .....	3	3
Tuberculosis disseminated: —		
(a) Acute .....	59	53
(b) Chronic .....	35	29
Syphilis:—		
(a) Tertiary .....	1	...
(b) Hereditary .....	22	23
Septicaemia .....	3	1
<i>Carried forward.....</i>	1,132	1,185

Mortuaries—Return of Diseases for the year 1929.

Diseases.	Male.	Female.
<i>Brought forward.....</i>	1,132	1,185
<i>II.—General Diseases not mentioned above.</i>		
Cancer or other malignant Tumours of the Stomach or Liver .....	1	...
Cancer or other malignant Tumours of the Peritoneum, Intestines, Rectum.	...	1
Cancer or other malignant Tumours of Organs not specified .....	...	1
Beri-beri .....	75	3
Chronic poisoning by organic substances (Morphia, Cocaine, &c.) .....	...	1
Other General Diseases:—		
Purpura Hæmorrhagica .....	2	1
<i>III.—Affections of the Nervous System and Organs of the Senses.</i>		
Meningitis not including Tuberculosis		
Meningitis or Cerebrospinal Meningitis .....	6	5
Apoplexy:—		
(a) Haemorrhage .....	5	1
Epilepsy .....	1	...
<i>IV.—Affections of the Circulatory System.</i>		
Pericarditis .....	9	5
Acute Endocarditis or Myocarditis .....	3	...
Other Diseases of the Heart:—		
(a) Valvular:—		
Mitral .....	1	1
Pulmonary .....	1	2
(b) Myocarditis .....	1	1
Diseases of the Arteries:—		
(a) Aneurism .....	5	...
(b) Arterio-Sclerosis .....	4	1
Other affections of the Circulatory System .....	2	...
<i>Carried forward.....</i>	1,248	1,208

Mortuaries—Return of Diseases for the year 1929.

Diseases.	Male.	Female.
<i>Brought forward.....</i>	1,248	1,208
<i>V.—Affections of Respiratory System.</i>		
Bronchitis:—		
(a) Acute.....	299	303
(b) Chronic .....	1	1
Broncho-Pneumonia .....	644	575
Pneumonia:—		
(a) Lobar .....	85	44
(b) Unclassified .....	3	...
Pleurisy, Empyema .....	49	43
Congestion of the Lungs.....	12	10
Gangrene of the Lungs .....	1	...
Pulmonary Emphysema .....	5	1
<i>VI.—Diseases of the Digestive System.</i>		
Diarrhoea and Enteritis:—		
Under two years .....	287	207
Diarrhoea and Enteritis :—		
Two years and over.....	3	1
Diseases due to Intestinal Parasites:—		
Distomiasis .....	2	...
Appendicitis .....	4	...
Hernia .....	1	1
Cirrhosis of the Liver:—		
(a) Alcoholic .....	6	...
(b) Other forms .....	3	...
Other affections of the Liver:—		
Hepatitis .....	1	1
Cholecystitis.....	3	3
Jaundice .....	39	22
Peritonitis (of unknown cause) .....	1	1
Other affections of the Digestive System.	4	...
<i>Carried forward.....</i>	2,701	2,421

Mortuaries—Return of Diseases for the year 1929.

Diseases.	Male.	Female.
<i>Brought forward.....</i>	2,701	2,421
<i>VII.—Diseases of the Genito-urinary System (non-Venereal).</i>		
Acute Nephritis .....	4	3
Chronic „ .....	11	4
Urinary Calculus .....	1	...
Diseases of the Bladder .....	1	1
<i>VIII.—Puerperal State.</i>		
Puerperal Septicæmia .....	...	2
<i>IX.—Affections of the Skin and Cellular Tissues.</i>		
Gangrene .....	1	...
Abscess:—		
Cellulitis .....	3	2
<i>X.—Diseases of Bones and Organs of Locomotion (other than Tuberculous.)</i>		
Diseases of Bones :—		
Osteitis .....	...	1
<i>XI.—Malformations.</i>		
Malformations :—		
Hydrocephalus .....	...	1
<i>XII.—Diseases of Infancy.</i>		
Congenital Debility .....	185	328
Premature Birth .....	95	136
Other affections of Infancy.....	6	5
Infant neglect (infants of three months or over) .....	7	2
<i>Carried forward.....</i>	3,015	2,906

Mortuaries—Return of Diseases for the year 1929.

Diseases.	Male.	Female.
<i>Brought forward.....</i>	3,015	2,906
<i>XIV.—Affections produced by External Causes.</i>		
Suicide by Poisoning (Opium) .....	2	6
Suicide by Gas Poisoning .....	3	...
Suicide by Hanging or Strangulation ...	11	6
Suicide by Drowning .....	4	6
Suicide by cutting or stabbing Instruments .....	2	...
Other accidental poisonings .....	1	...
Burns (by Fire) .....	5	...
Burns (other than by Fire) .....	2	4
Suffocation (accidental) .....	2	...
Drowning (accidental).....	60	28
Wounds (by Firearms, war excepted) ...	9	3
Wounds (by Fall).....	18	14
Wounds (by Machinery) .....	10	...
Wounds (crushing, e.g. railway accidents, &c.) .....	2	2
Injuries inflicted by Animals, Bites, Kicks, &c. ....	9	3
Exposure to Cold, Frost bite, &c. ....	3	6
Electric Shock .....	2	...
Murder by Firearms.....	3	...
Murder by cutting or stabbing Instruments .....	4	3
Murder by other means (Strangulation)...	3	2
Fracture .....	5	2
Deaths by Violence of unknown cause....	2	...
<i>XV.—Ill-Defined Diseases.</i>		
Diseases not already specified or ill-defined :—		
Still born .....	90	54
Foetus .....	23	8
Shock .....	3	1
Too decomposed .....	92	67
Skeleton only .....	1	...
<i>Total.....</i>	3,386	3,121





